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FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

No. 29,141 — Monday October 10 1983 — D 8523 B

London Stock Exchange chief discusses vital week ahead, Page 6

NEWS SUMMARY

GENERAL

Etendard delivery to Iraq expected

The imminent delivery of five French Super-Etendard advanced jet fighters to Iraq, for possible use in the Gulf war has increased tension in the area.

Iraq said yesterday that it would block Iranian oil shipments unless it is allowed to export its own oil through the Gulf, within striking distance of Iranian forces.

Iraq's Gulf terminals have been out of action since the start of the war. Page 20

Saudi arms deal

Saudi Defence Minister Prince Sultan Ibn Abdulaziz said his country is about to conclude a deal to buy arms from Spain. His talks with West German Chancellor Helmut Kohl this week are also likely to concern arms purchases.

McFarlane returns

U.S. special envoy Robert McFarlane returned to Beirut after long talks on Lebanon in Damascus with Syrian Foreign Minister Abdel-Harim Khaddam.

Staff at the Damascus office of the Palestinian news agency Wafa have defected to rebels opposing PLO leader Yasser Arafat, it was announced. Soviet arms build-up. Page 2

'Lebanese defections'

A major-general, 30 senior officers, and 800 Lebanese army troops have deserted to join the Druze forces, it was claimed in Damascus. Page 2

Obote's appeal

Ugandan President Milton Obote urged his predecessors Yusufu Lule and Godfrey Binaisa, both now living in London, to return home, saying they were free to express their views.

Basques for trial

Nine Basques accused of attacking an army barracks, whose release has been sought by guerrillas in exchange for a kidnapped army captain, will be tried by court martial on October 25.

Soviet scientist quits

Soviet scientist Evgeni Novikov has left Japan, where he was attending an international congress, for the U.S., where he has been granted political asylum.

Zia in talks

President Zia-ul-Haq of Pakistan today opens talks with the outlawed Jamiat religious party, covering topics including the end of martial law and the holding of elections. Page 6

Second Chile quake

Northern Chile was struck by its second earthquake in five days. Buildings in the city of Copiapo were damaged.

Mass wedding

Pope John Paul married 38 couples at St Peter's, Rome, biggest mass wedding performed by a Pope.

Piggott's victory

French colt Esprit du Nord, ridden by English jockey Lester Piggott, was the DM 400,000 ($150,000) winner of the Preis von Europa horse race at Cologne. American-owned Treizième, ridden by Gerard Dubroueq, was the FFr 500,000 ($62,500) winner of the Grand Criterium at Longchamp, Paris.

Briefly . . .

Lusaka: Zambian politician Harry Nkumbula, former African National Congress president, died, aged 67.

Los Angeles: Actress Joan Hackett, 49, died of cancer.

BUSINESS

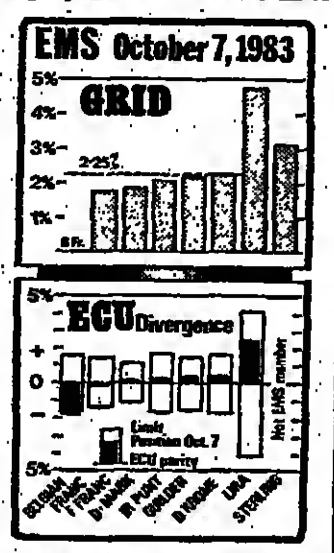
Belgium boosts Cockerill selling

● BELGIAN Government is putting up BFr 937.5m ($18m) to buy out private steel marketing companies to give sales control to state steel group Cockerill Sambre, said to have been losing BFr 800m a year in lost opportunities. Page 22

● THE DOLLAR'S continued decline put further pressure on weaker members of the European Monetary System last week. As dollar confidence faded, market operators switched into D-Marks, creating further strains within the system.

The D-Mark moved above the French franc, which with the Belgian franc, traded close to cross-rate limits against the D-Mark. The Belgian franc was also well outside its divergence limit in relation to its Ecu central rate, although the Belgian central bank resisted the temptation to increase its discount rate in defence of the franc.

The Italian lira showed a small improvement during the week and remained the strongest currency by virtue of its wider divergence limit. The Dutch guilder benefited from the strength of the D-Mark to finish the week on a firmer note.



The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weakest currency in the system, defines the cross rates from which no currency (except the lira) may move more than 2¼ per cent. The lower chart gives each currency's divergence from its "central rate" against the European Currency Unit (ECU), itself a basket of European currencies.

● EUROPEAN Community faces a crucial test over reshaping its financial and political future with talks opening in Athens today, with Greece's current presidency of the EEC a crucial factor. Page 3

● AUSTRALIA'S Government may soon reverse policy by allowing foreign banks to operate there. Page 22

● HUNGARY'S three-year-old attempt to break into the international building market appears to be unprofitable. Page 4

● BELGIUM'S gross national product is forecast to grow by 0.5 per cent in 1984, after an estimated 0.7 per cent fall this year, says the country's largest bank, Société Générale de Banque. Page 3

● ITALIAN Government has assured Britain it will do its best to speed the financing of the Westland-Augusta helicopter project. Page 4

● WESTERN AUSTRALIA is discussing buying Bond Corporation's 5 per cent share in the A$450m ($390m) Argyle Diamond Mines project, which could soon be the world's biggest diamond producer. Page 23

● FORD UK is to spend £74m ($112m) on automation at its Southampton van plant. Page 7

● EUROPEAN Assets Trust, Amsterdam-based, which is offering a third of its enlarged capital for about £8m in London, has applied for a full listing on the London Stock Exchange. Page 23

Burma bomb kills four key members of South Korean cabinet

BY ANNE CHARTERS IN SEOUL AND CHRIS SHERWELL, SOUTH ASIA CORRESPONDENT, IN SINGAPORE

FOUR senior South Korean cabinet ministers, including key economic chiefs and Mr Lee Bum Suk, the Foreign Minister were yesterday killed with at least 15 other people when a large bomb went off in the Martyr's Mausoleum in Rangoon, Burma's capital.

The blast occurred only minutes before President Chun Doo Hwan was due to arrive for a wreath laying ceremony. No-one had claimed responsibility by late last night. The Burmese authorities did not ascribe blame but in an official statement said of the 19 known to be killed most were Koreans.

In Seoul, the South Korean capital, however, a presidential spokesman said that the bomb is believed to have been planted by North Koreans.

The Government immediately put the military and police on full alert in case communist North Korea tried to take advantage of any confusion. People were told to remain calm.

President Chun and the remaining members of his original 22 member mission left immediately after the blast for Seoul, cutting short a six nation tour. He also blamed the North Koreans before leaving.

The explosion robs President Chun of key members of his economic team. Apart from Mr Kim Dong-Whie, Minister for Commerce and Industry and Mr Suh Sang-Chul, Energy and Resources Minister, two other top technocrats were killed.

Mr Lee Bum Suk had recently returned from New York where he urged UN action on the recent shooting down of a Korean Airline aircraft.

The killings of the Cabinet ministers as well as other top advisers – General Lee Ki Baek, the head of the Joint Chiefs of Staff of the South Korean Armed Forces was injured – seems bound to increase tension in the Korean peninsula, diplomatic sources in Seoul said.

Feelings against North Korea were running high because the Pyongyang Government failed to utter a word of regret or sympathy over the shooting down last month by Soviet fighters of a Korean Air Lines (KAL) jumbo jet with 269 people on board.

North Korean agents twice attempted to assassinate former South Korean President Park Chung Hee and succeeded in killing his wife in the mid-1970s.

In addition to the deaths, the blast has brought about an indefinite postponement of a carefully planned and important six-nation Asian and Australasian tour.

Apart from Burma, President Chun was also due to visit India, Sri Lanka, Australia, New Zealand and Brunei.

The tour was aimed at cementing South Korea's relations with its Asian neighbours at a time when its own economic difficulties as a major debtor nation make it more dependent than ever on its trading ties.

Among the South Korean dead in the Rangoon bomb blast were the following, according to the latest information made available in Seoul to the Associated Press:

Deputy Premier and Economic Planning Minister Suh Suk-Joon, 45; Foreign Minister Lee Bum-Suk, 58; Commerce and Industry Minister Kim Dong-Whie, 51; Energy and Resources Minister Suh Sang-Chul, 48; Secretary of Economic Affairs Kim Jae-Ik, 45; Chief Presidential Secretary Ham Pyung-Choon; Chief Physician to the President, Dr Min Byung-Suk; South Korean Ambassador to Burma, Lee Kye-Chul; Chief Secretary to the head of the Ruling Democratic Justice Party, Shim Sang-Woo; member of the Overseas Economic Co-operation Planning Office, Ha Dong-Sun; Vice-Minister of Agriculture and Fisheries Kang In-Hie; member of the Press Secretariat, Lee Jae-Kwan; two unnamed security guards and a reporter for the Seoul newspaper Dong-A Ilbo.

Reported seriously injured were:

Chairman of the Joint Chiefs of Staff, General Lee Ki-Back; Vice-Minister of Finance Lee Ki-Uk; member of the Presidential Office Press Secretariat, Choi Jae-Uk; director of the Foreign Ministry's protocol office, Choi Sang-Duk; two unnamed Information Ministry officials and 10 members of the press corps accompanying the presidential entourage.

Israeli Treasury in struggle to curb run on bank shares

BY DAVID LENNON IN TEL AVIV

Israel's economic crisis deepened yesterday as the country's Treasury tried to agree on a rescue operation to prevent the collapse of bank shares following a massive sell-off of the shares last week.

Banking shares are valued at about $7.5bn, some two-thirds of which are held by commercial companies and institutions. Many of these shares are used as collateral for loans, and it is feared that a drastic fall in share prices could produce a chain reaction of bankruptcies if companies prove unable to increase their collateral with the banks.

The deepening problems come as the Knesset (parliament) will this morning be asked to approve a new coalition Government headed by Mr Yitzhak Shamir. The rest of the Cabinet will be virtually identical to that which resigned when Mr Menahem Begin quit the premiership last month.

Mr Shamir intends to present an unchanged Cabinet to the Knesset and can expect severe criticism from the opposition for keeping on Mr Yoram Aridor as Finance Minister.

If Mr Shamir wins approval for his coalition, his Cabinet will go into emergency session. The current trouble of the banks are only one element of a much wider economic crisis, which has been building up for the past two years.

The new Government will need to deal urgently with the widening trade gap, the growing balance of payments deficit, the growing foreign debt, and must also try to bring down the rate of inflation, which is running in triple digits for the fourth consecutive year.

Trading on the Tel Aviv Stock Exchange will be suspended today, for the second day running and the sale of foreign currency will be restricted until details of the rescue plan are finalised.

Following urgent appeals from the commercial banks, the Treasury has offered to underwrite bank shares but at a value expected to be 15 to 30 per cent below their price, at the end of trading last week.

The Cabinet met for six hours yesterday to discuss the crisis, described by one banker as the most serious encountered by the economy in decades.

Dr Moshe Mandelbaum, Governor of the Bank of Israel, the central bank, called on the public not to panic. He said the Government would do all in its power to minimise the fall in the value of bank shares.

A spokesman for one of the commercial banks said yesterday: "There should not be a disaster, if the public behaves logically." Along with other bankers, he is afraid that the public have lost all confidence in the Treasury and that the banks will dump bank shares when trading is resumed. This could bring falls of up to 50 per cent in the value of the shares, one banker said.

The banks ran into severe liquidity problems last week, and the public sold bank shares in unprecedented quantities. In keeping with past practices, the banks bought up these shares to sustain their value.

In order to do so, the banks imported hundreds of millions of dollars, from their subsidiaries overseas and took loans from other overseas banks. But as the run on the shares accelerated, the Israeli banks ran out of willing leaders abroad.

The commercial banks then turned to the Government. The central bank agreed to ease the liquidity regulations on condition that the banks stop supporting their own shares. Out of desperation the banks have now accepted this demand.

Yesterday, the banks and the Treasury were working out the details of the agreement. In principle, the Treasury will underwrite the bank shares to guarantee a bottom price for the shares. This bottom price would be linked to the dollar, and bear interest at a fixed rate – but this will only to those shares which people hold for a period of five years.

The interest rates and the determining state of the bottom price were under discussion yesterday. The banks want the bottom rate set as at last Thursday's value of the shares – the Treasury is suggesting it be set at the April value.

This rescue formula would turn the formerly gilt-edged but completely liquid bank shares into government-supported redeemable bonds. If the value of the shares falls behind the dollar linkage, then the Government would have to pay out the difference. This was described by one banker as "quasi-nationalisation."

Argentine court lifts freeze on debt talks

By Jimmy Burns in Buenos Aires

A FEDERAL Court of Appeal has quashed Judge Federico Pinto Kramer's decision to freeze the rescheduling of Argentina's public sector foreign debt. It has also declared the judge "not competent" to pursue charges against the central bank authorities.

The move, taken at the weekend under intense pressure from moderate sectors of the ruling military regime, is aimed at resolving the financial crisis sparked off by the arrest last week of Sr Julio Gonzalez del Solar, the central bank Governor.

However, the outcome of the crisis remained uncertain yesterday with signs of growing nationalist fervour and a continuing split over the issue within the military junta in the run up to the October 30 elections.

Significantly, Saturday's court ruling did not refer explicitly to Judge Kramer's criticism of Sr Solar but merely referred the case to Federal Judge Martin Anzoategui, who is investigating allegations that nearly a quarter of Argentina's foreign debt was used for speculative ends following the 1976 coup, and is therefore "illegal."

In New York, meanwhile, foreign banks have indicated unwillingness to release further funds to Argentina as long as the present political confusion in Buenos Aires persists. They have virtually accepted that the first $500m tranche of a $1.5bn loan scheduled for drawing on October 17 will now be delayed.

The junta has called a crucial

Continued on Page 20

Bankers Trust starts move to wind up Carrian

BY ROBERT COTTRELL IN HONG KONG

A WINDING-UP position against Carrian Investments, the stock market listed arm of the debt-stricken Hong Kong property group, has been issued by Bankers Trust of the U.S.

A Hong Kong High Court judge on Saturday appointed as provisional liquidators of the company three executives of the accountancy firm of Arthur Young. The petition will be heard on November 7.

The move follows a similar petition issued on Friday by Hong Kong's Registrar General against the China Underwriters Life and General Insurance Company, which is a subsidiary of Carrian Investments. The High Court assigned the job of provisional liquidator to the Official Receiver.

Saturday saw other blows to Carrian's hopes of avoiding bankruptcy. Wardley, the merchant banking arm of the Hongkong Bank Group, resigned as adviser to Carrian Holdings, saying it thought there was "no longer any real prospect" of a scheme to reconstruct Carrian's debts being successful. Hambro Pacific, Hong Kong arm of the London merchant bank, also resigned as adviser to Carrian Investments, the main subsidiary of Carrian Holdings.

Wardley and Hambros had been trying to agree with creditor banks schemes for reconstructing debts of some HK$6bn (U.S.$702m) attributable to Carrian Investments and Carrian Holdings. Hong Kong authorities say total debts of the Carrian group, and of companies associated with its chairman, Mr George Tan, exceed HK$10bn. The largest creditor is thought to be Bank Bumiputra of Malaysia.

Mr Tan spent the weekend in Hong Kong's Laichikok detention centre, waiting to raise the bail fixed for him at a High Court hearing in chambers on Friday. The bail is said to be "substantially increased" from the HK$2m originally fixed for Mr Tan by a magistrate's court on Tuesday. Mr Bentley Ho, an executive director of Carrian, was freed over the weekend on bail of HK$1m. Mr Tan and Mr Ho face charges under Hong Kong's theft ordinance.

At a Carrian Holdings board meeting held inside Laichikok detention centre on Saturday, two directors, Mr John Marshall and Mr Rod Bell, resigned.

The Carrian group has been struggling for almost a year to reconstruct its debts, having risen and fallen with Hong Kong's property market.

The Official Receiver is expected to terminate China Underwriters' general policies, and seek a buyer for its long-term business. Bankers believe that a scheme may be found to stabilise the finances of Carrian's other main subsidiary, the shipping fleet, Grand Marine.

The collapse of the Carrian group is likely to increase pressure on the Malaysian Government to explain how Bank Bumiputra, the country's largest bank, came to lend so much

Continued on Page 20

End of the road, Page 19

InterFirst group makes $194m loss

BY TERRY DODSWORTH IN NEW YORK

INTERFIRST Corporation of Dallas, the 19th largest U.S. banking group, has been forced to make heavy provisions and declare a $194m third-quarter deficit as a result of losses in its energy loan portfolio.

The announcement of the loss, believed to be the largest quarterly deficit ever by a big U.S. banking group, was followed at the weekend by a sweeping management reorganisation, which will bring in a new team at the head of InterFirst Bank Dallas, the group's main operating subsidiary.

At the same time, Mr Elvis Mason, the group's chairman, stressed that the corporation and all its banking subsidiaries remained in a strong financial condition. "InterFirst continues to be among the best-capitalised major banking organisations in the world," he said.

The Dallas bank's difficulties follow similar energy-related problems over the last 18 months at Penn Square Bank of Oklahoma and Seafirst Corporation of Seattle, which have both been absorbed into larger banking groups. After acquiring Penn Square, Continental Illinois of Chicago made loan provisions of $220m and took a $61m net loss for the second quarter of 1982, while Seafirst declared a deficit of $158.2m in the second half of this year, when it was taken over by BankAmerica Corporation.

At InterFirst, third quarter write-offs amounted to $334m, while loan loss provisions rose to $430m from $76m in the first six months to June. According to Mr Mason, InterFirst believes it has made adequate provision for any further losses that may emerge in its energy business. The bank expects to return to profits in the fourth quarter, but still anticipates a loss for the year against net profits of $223m in 1982.

InterFirst took over the Fort Worth-based First United Bancorporation for $260m in a paper transaction in June. After this deal, its shareholders' funds stood at the end of September at $1.14bn, about 5.1 per cent of total assets, while its non-performing assets, which earn either no interest or interest at a reduced rate, amounted to marginally over 3 per cent of total assets.

UK in new bid to cut spending

By Max Wilkinson in London

THE UK Government will be mounting a second front in its attack on public spending after the current Conservative Party conference. The Treasury will then shift the argument from next year's overspending to the major policy issues in the period up to 1987.

It will urge the Cabinet to make a series of tough decisions which will particularly affect spending on defence, the health service and social security.

The argument, which is part of the current expenditure review, is likely to be at least as fierce as that over the £2½bn cuts which the Treasury wants in departmental bids for spending in 1984-85. These cuts are needed to bring the total back to the target of £126.4bn ($190bn) announced last March.

The Treasury has conceded that no radical cuts in public expenditure can be made next year and that there is only limited scope for

Continued on Page 20

Ministers resist spending cuts, Page 7

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In the States, there's **European American Bancorp (EAB)** with subsidiaries in New York and their affiliates and branches in Bermuda, Cayman Islands, Chicago, Los Angeles, Luxembourg, Miami, Nassau (Bahamas) and San Francisco.

Then there's **European Asian Bank (Eurasbank).** Headquartered in Hamburg, it has branches in Bangkok, Bombay, Colombo, Hong Kong, Jakarta, Karachi, Kuala Lumpur, Manila, Seoul, Singapore and Taipei.

Ebic banks also have important participations in **European Arab Bank** in Brussels, Cairo, Frankfurt, London and Manama (Bahrain), and in **Euro-Pacific Finance Corporation** in Brisbane, Melbourne and Sydney.

If you'd like to take advantage of our financial strength and experience, and would appreciate further details, then just send your business card, marked "Information on Ebic," to the Ebic Secretariat, 100 Boulevard du Souverain, B-1170 Brussels.

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OVERSEAS NEWS

Pravda in new attack on U.S. 'banditry'

MOSCOW – President Reagan's foreign policy was brended as open banditry by the Soviet Communist Party daily Pravda today in a fierce new attack on the U.S. leader.

In a commentary accusing Mr Reagan of hypocrisy, Pravda said that while the President had stated that the U.S. wanted peace and global justice, he in fact relied on the use of threats and military force on a worldwide scale.

"The 100 per cent militarisation of the U.S., an unprecedented arms race and open banditry extended to all continents are the essence of Reagan's policy," it added.

The article was a signed by Alexei Petrov, a pen-name used on commentaries which represent high-level Kremlin thinking.

Declaring Mr Reagan's foreign policy adventurist and irreponsible, Pravda said Washington was now frightening and alienating both its allies and its own people.

The U.S. had mounted a crusade against all who did not agree with American views, and as a result U.S. marines were fighting in Lebanon and American troops and agents were deeply involved in Central America, the newspaper said.

Washington was carrying out a massive arms build-up in preparation for another crusade, this time against the Soviet Union and communism as a system, it added.

It was the latest in a series of harshly-worded attacks on the U.S. President following the sharp deterioration in U.S.-Soviet relations after Soviet fighters shot down a South Korean passenger airliner last month.

The Government daily Izvestia also attacked President Reagan at the weekend, saying he had deliberately ignored evidence that Soviet pilots had been unable to recognise the Korean airliner as a civilian plane.

● Bucharest, Romania – The Presidents of Romania and Bulgaria have jointly called on the U.S. and the Soviet Union to reach an early agreement in their Geneva talks on reducing intermediate-range missiles.

Reuter/AP

Soviet arms build-up in Syria causes Washington concern

BY REGINALD DALE, U.S. EDITOR IN WASHINGTON

THE REAGAN Administration is showing concern over the Soviet military build-up in Syria, to which Moscow is now adding advanced surface-to-surface SS-21 missiles never before depinyed outside the Warsaw Pact.

Confirming the deployment of the SS-21s at the weekend, President Ronald Reagan warned that the "massive" amount of modern Soviet military equipment now in Syria raised questions about Syria's "peaceful intentions."

In addition to the SS-21s, which have a range of 75 miles, the recent Soviet build-up has included the latest SA-5 anti-aircraft missiles, MIG 23 and MiG 25 fighters and late model tanks. So far this year, Moscow has supplied Syria with \$2.5bn (£1.67bn) worth of military equipment, according to U.S. officials.

The Soviet arms shipments have gone well beyond replacing the equipment Syria lost in fightlng with Israel in Lebanon last year, and Mr Reagan added in his weekly radio broadcast that there are now more than 5,000 Soviet military advisers and technicians in the country.

Defending the presence nf the U.S. marine peace-keeping force in Beirut, Mr Reagan put the Lebanese crisis squarely in the context of n much broader potential East-West confrontation.

U.S. officials, however, have two more immediate concerns nbout the Soviet huild-up. The first is that it will make Syria more intransigent in negotiations for a Lebanese settlement and the second is that it could lead to renewed armed conflict between Syria and Israel.

Washington believes that Syria's aim is to huild up its armed forces to the point at which it can not only remain dominant in Lebanon but can also successfully challenge Israel on the hattlefield. Syria's overall goal is to recapture the Israeli-occupied Golan Heights, they say.

President Hafez al-Assad, the Syrian leader, is said by Washingtoo to recognise that if the two countries went to war now, Syria would still lose. But with its new Soviet weapons—particularly the SS-21, which can reach major Israeli population centres—Syria could still make an Israeli victory extremely costly.

Meanwhile, U.S. officials believe Syria has concluded that time is on its side and that the Israelis are fading as the predominant force in the region.

Lebanese 'defection'

BY OUR FOREIGN STAFF

A MAJOR-GENERAL, 30 other senior officers and 800 troops from the Lebanese army have now defected to Druze forces headed by Mr Walid Jumblatt, it was claimed in the Syrian capital, Damascus, yesterday.

A close aide to Mr Jumblatt claimed that the latest and most significant defector was Major General Nadim al-Hakim. The announcement came as efforts to reach agreement on a venne for the proposed national reconciliation talks appeared to be making little progress.

Mr Robert McFarlane, the U.S. special envoy, held further talks in Damascus yesterday on reinforcing the 14 day-old ceasefire in Lebanon. One of the key problems still to be overcome is the composition of the international observer team to police the ceasefire.

Two U.S. marines were slightly wounded in separate incidents yesterday near Beirut's international airport. One marine is believed to have been hit by a stray bullet fired in continuing skirmishing between the Lebanese army and Shia Moslem militiamen.

Australia in row with Asean over Kampuchea

By Chris Sherwell in Singapore

A ROW has erupted between the five-member Association of South East Asian Nations (Asean) and neighbouring Australia over the decision by the Labor Government in Canberra to distance itself from the pro-Western grouping over the issue of Kampuchea.

Asean foreign ministers have decided to call off a planned Asean - Australia meeting scheduled for later this month in Sydney, and are considering further action. This could involve raising controversial trade issues

The change in Canberra's position surfaced at the United Natinns General Assembly session in New York, where Mr Bill Hayden, Australia's Foreign Minister, announced that his government would not co-sponsor Asean's resolntion on Kampuchea.

The Asean countries—Thailand, Malaysia, Singapore, Indonesia and the Philippines—had put forward a draft resolntion calling for the withdrawal of all foreign forces from Kampuchea and the restoration of the country's independence and territorial integrity.

Mr Hayden also upset the Asean countries by criticising the Soviet invasion of Afghanistan but failing to mention the Vietnamese invasion of Kampuchea in 1979, which toppled the Peking-backed Khmer Rouge regime and which has since kept up to 180,000 Vietnamese troops in the country.

In addition, he spoke out indirectly against any Asean-inspired military help for the Khmer Rouge and other rebel groups now fighting the Hanoi-backed Hang Semrin regime in Kampuchea.

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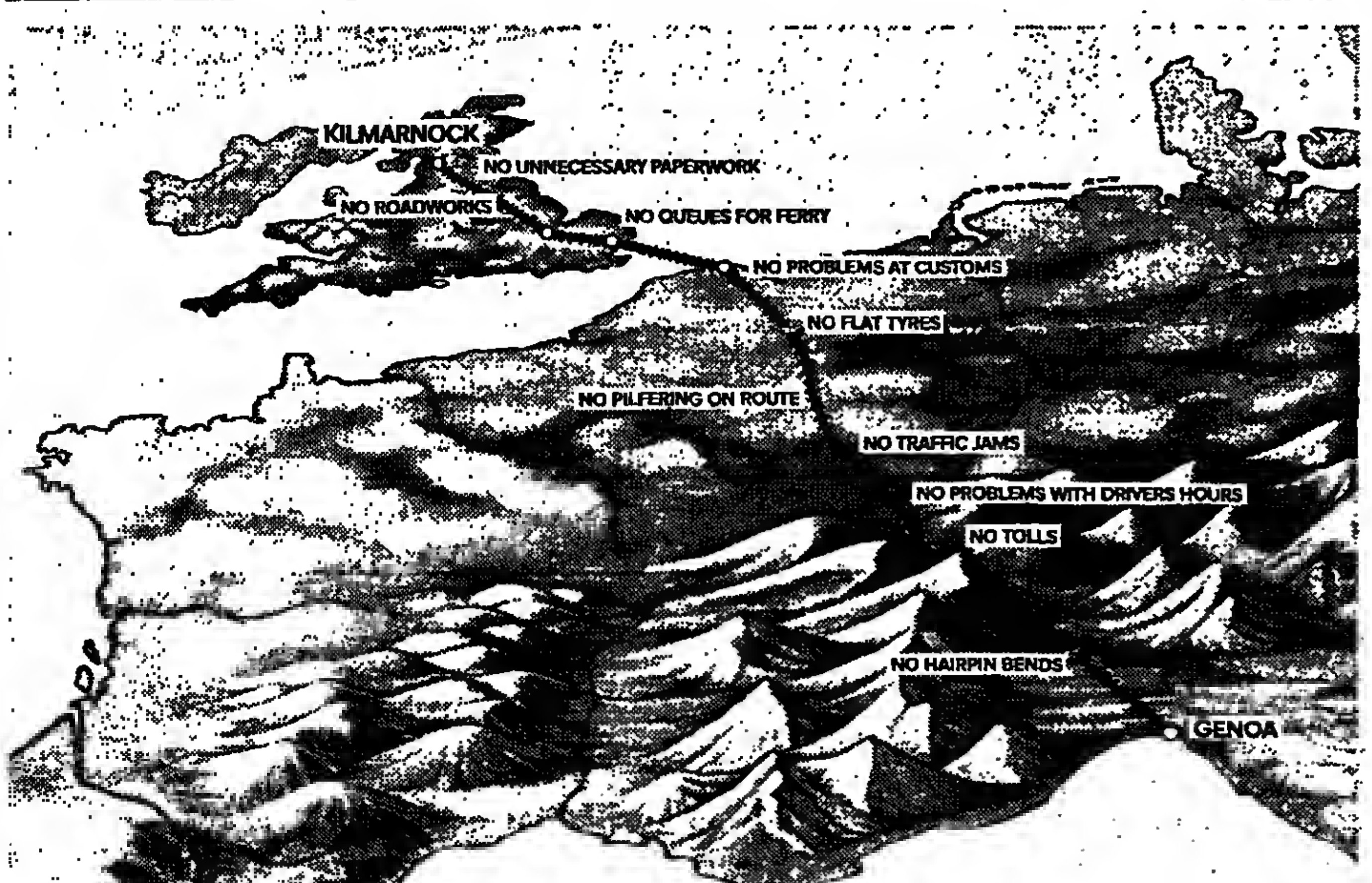

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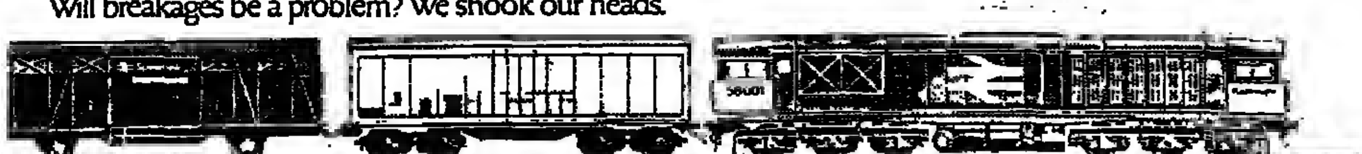

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OVERSEAS NEWS

EEC talks will put Greek presidency to test

BY JOHN WYLES IN ATHENS

THE EUROPEAN Community's slow search for reforms to reshape its financial and political future switches to Athens today with talks between some 30 ministers which will test severely the effectiveness of the Greek presidency of the EEC.

Since August, there has been growing alarm at the top of the European Commission and in some national capitals at the lack of progress being made in the reform negotiations, and some disposition to hold the Greeks heavily responsible.

At previous meetings of Community foreign, finance and agricultural ministers, the ten governments have been more inclined to rehearse well-known national positions than to negotiate. If this reluctance to negotiate settles over the three-day meeting here, then the Community will risk missing its target for agreements at the Athens summit in December.

While the heads of government should not then have too much difficulty identifying EEC policy priorities, there is still enormous ground to be covered to put the summit within hailing distance of agreements enconomising on the Common Agricultural Policy and limiting the British, and possibly other, budget contributions to the EEC.

Senior Commission officials are worried about the Greek Government's ability, as president of the EEC Council, to lead the Ten up the mountain of work still to be scaled. Greek expertise on the basic issues is said to be far too thin.

While Mr Grigoris Varfis, the Greek Minister for Europe, is making an impressive personal contribution, he lacks the political background, authority and weight to give a firm presidential push towards agreement behind colleagues such as West Germany's Hans Dietrich Genscher, France's Claude Cheysson and Britain's Sir Geoffrey Howe.

The Greek Government's strongest defenders remain Britain and West Germany.

The British view is that "there is still plenty of time" to line up settlements at Athens and that no amount of presidential guile can force governments to negotiate when they are not ready to do so.

It is also acknowledged throughout all EEC capitals that the quest for agreement is not helped by the sheer size of ministerial gatherings—which were fixed by the summit in Stuttgart last June.

The problems of negotiating in a large crowd of ministers will again be highlighted today when agricultural ministers join the foreign and finance ministers for a session on the most difficult issues of all—CAP economies.

Britain's demand for a strict financial guideline to control the growth of CAP spending is still not attracting much support but the possibility of agreement is said to be emerging around the Commission's proposal for a "super levy" to curb dairy production and to meet the costs of disposing of the huge milk surplus.

Ireland, however, remains bitterly opposed and ready to veto an agreement on the super levy.

On budget financing, France made a significant step last week towards the UK's view of curbing British transfers to Brussels but there is still little meeting of minds on the kind of mechanism to be used, the size of reductions in Britain's payments and the length of time that any new budget arrangement should last.

Special session on events in Lebanon

THE EEC's 10 Foreign Ministers are to hold a special political co-operation session in the sidelines of to-morrow's meeting following a request by Herr Hans Dietrich Genscher, the West German Foreign Minister, it was announced in Athens at the weekend, writes Andriana Ierodiaconov in Athens.

The Ten are expected to discuss the situation in the Lebanon in the light of talks between Mr Amin Gemayel, the Lebanese President, and Dr Helmut Kohl, the West German Chancellor, at the end of last week.

The meeting follows a Washington Post report that Syria and Saudi Arabia have agreed that a joint Italian and Greek observer force should help to maintain the ceasefire in the Lebanese Chouf mountains.

An appeal for Greek participation in such a force was made in Athens last week by Mr Walid Jumblatt, the leader of the Lebanesa Druze community.

Athens has not yet formally replied to the request, saying it is waiting for a formal appeal from the Lebanese Government. But the Greek presidency has been urging for an EEC peace initiative in the Lebanon since last July.

Hopes for Belgian growth next year

BY PAUL CHEESERIGHT IN BRUSSELS

THE BELGIAN economy should resume growth in 1984 after contracting this year and in 1981-82, according to Société Générale de Banque (SGB), the country's largest bank.

Its conclusion, based on the results of econometric studies and published in its latest bulletin, is broadly in line with other locally-produced assessments of the economy.

The gross national product in volume terms is expected to grow by 0.5 per cent following an estimated fall this year of 0.7 per cent.

The modest growth comes against the background of tight conditions in the internal economy, where there has been an effort in Government policy to switch resources away from consumers and into business.

Thus wages and salaries will continue to diminish in real terms. Against an average inflation rate this year of 7.5 per cent, wages and salaries will rise by only 1 per cent, while next year SGB thinks there will be payment increases of 2.3 per cent against an inflation rate of 5.6 per cent.

But the Government is not cutting into the public sector deficit as fast as the business community would like. Next year, however, expressed in terms of percentage of gross national product, it will slip beneath 16 for the first time in four years.

Last month's public sector strikes have shown that if the Government wishes to maintain social peace, especially in the south of Belgium, it has only limited room for manoeuvre.

U.S. 'in isolation' over funds

HOT SPRINGS—Mr A. W. Clausen, the World Bank president, said at the weekend that the U.S. is "rather isolated" in its reluctance to provide more funds for a programme in which developed nations lend money to the world's poorest countries.

But he expressed optimism that the Reagan Administration would agree to a greater contribution for the programme, the International Development Association (IDA).

Mr Clausen made his remarks after addressing the autumn meeting of the Business Council, which consists of 200 of the leading corporate executives in the U.S.

Mr Clausen said that he had urged support for the World Bank and other international lending agencies that help developing nations.

"I said the recovery in the United States . . . cannot fly for very long unless there's recovery in the Third World."

Therefore, he said, it is "very much in the self-interest of the business community" to back the organisations.

Mr Clausen made a fresh appeal for funds for the IDA which provides 50-year, no-interest loans for development projects.

The Reagan Administration has been reluctant to promise as much as the bank wants for the next three years.

Bank officials initially said they would need $16bn from the developed countries that contribute to the fund. But the U.S. has offered only about $2.3bn, which would keep the level of the pool at about $9bn.

Officials have since indicated a willingness to compromise, but not at the U.S. level.

Mr Clausen said that "the U.S. is rather isolated at its position. It is lonely at the lower spectrum."

He said that he had not received a commitment from the Administration to request a higher sum from Congress.

But he said he was encouraged by reports early last week that the U.S. representative to the World Bank "has indicated now a range of between $10bn and $11bn."

AP

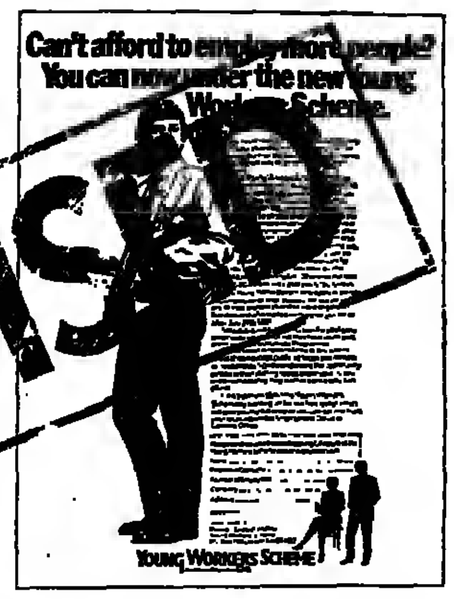
Cyprus talks win support

DR ANDREAS PAPANDREOU, Greek Prime Minister, and Mr Spyros Kyprianou, President of Cyprus, have reaffirmed support for a new United Nations plan to resume intercommunal talks between Greek-Cypriots and Turkish-Cypriots on the island, AP reports from Athens.

"Our two governments unreservedly support UN Secretary-General Javier Perez de Cuellar's initiative and will continue to make every effort for its success," a joint statement issued after the two-hour meeting said.

Ford trade zone

FORD MOTOR says it is seeking a free trade sub-zone status for its Lorain, Ohio, car assembly plant which will enable the facility to import car components duty-free and lower the plant's operating costs, Reuter reports from Dearborn, Michigan.



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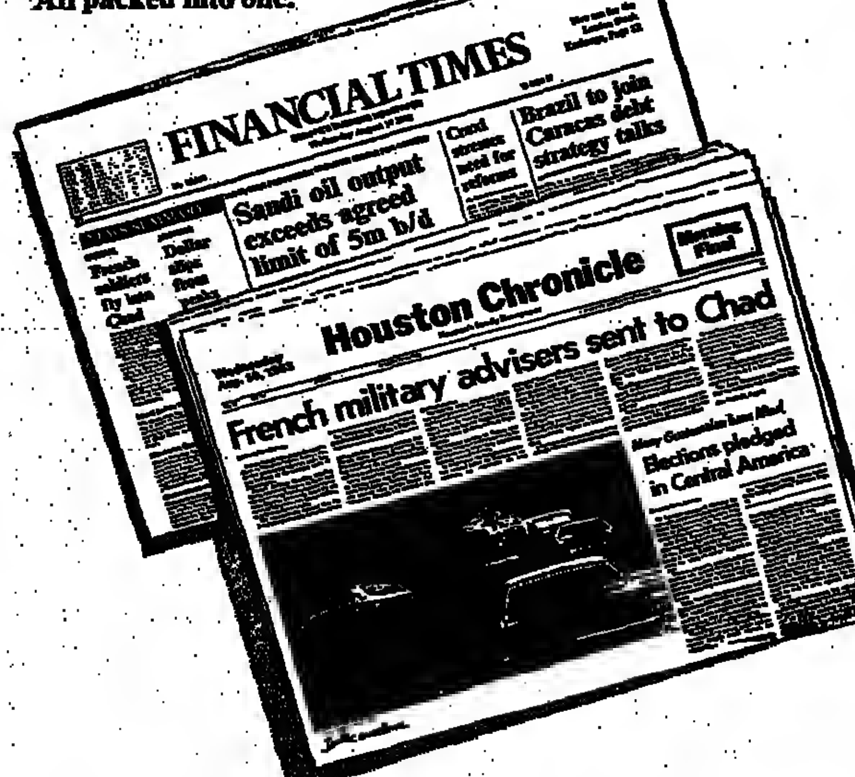

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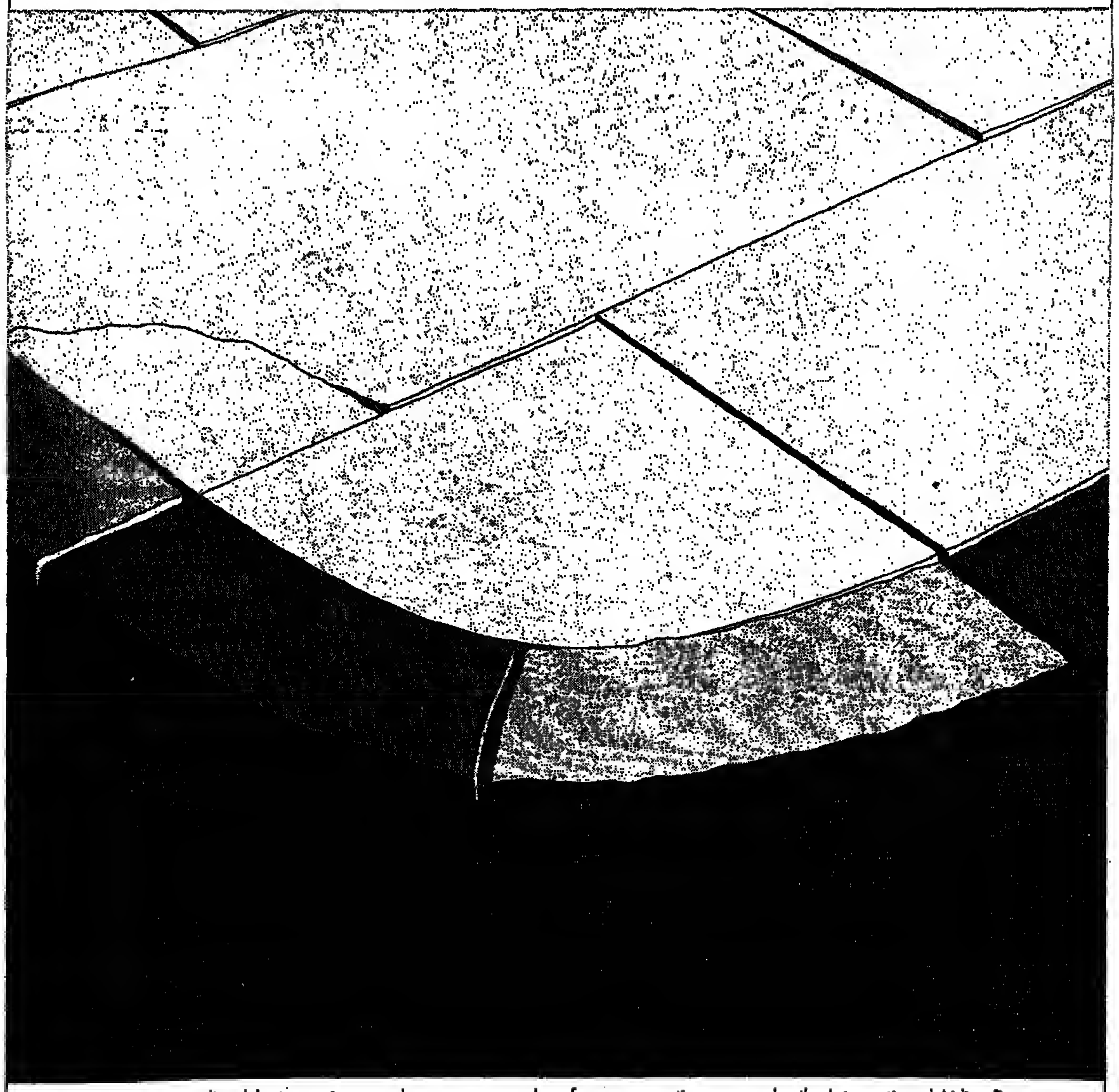

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WORLD TRADE NEWS

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September, 1983.

Italy seeks to reassure UK over helicopter

By James Buxton in Rome

THE ITALIAN Government has assured Britain that it will do everything it can to speed up the financing of the joint Anglo-Italian helicopter project, which is in danger of delay.

The project is for Westland in Britain and Agusta in Italy to co-operate in building the EH101 naval helicopter. Though both governments have approved the project, the Italian parliament has not yet granted funds for the helicopter's production.

On Friday, Mr Paul Channon, UK Minister of Trade, received on a visit to Rome an assurance that the Italian government would do everything it could to have the legislation passed by the end of the year so that production can begin on time next year.

The Bill failed to get approval before parliament was dissolved for the general election in Italy in June this year. Now a new Bill has been introduced including funds for the EH101, as well as for the production of the AMX fighter aircraft, being built by Aermacchi in co-operation with Brazil. By Italian law military production projects must be approved by parliament.

The EH101 project could become the biggest industrial co-operation venture between Britain and Italy since the Tornado MRCA aircraft. As well as being an anti-submarine helicopter, a civilian passenger version is planned.

Tom Sealy spotlights an abortive bid to earn hard currency

Hungary suffers heavy loss in assault on construction market

HUNGARY'S attempt to break into the lucrative international construction market has run into trouble. Rather than boosting hard currency earnings as intended, the exercise seems to be costing Hungarian contractors more than they are making.

A recent investigation by the Central Supervisory Authority into 28 foreign contracts showed that the majority of them will make a loss.

The three-year-old Hungarian push into foreign construction markets was prompted by a growing excess of capacity on the domestic market and the success of other newcomers to the international industry like Turkey and Brazil. It was thought that by exporting the excess capacity, particularly to the Middle East, full employment could be maintained in the construction industry and valuable hard currency earned for minimal new investment.

Another potential benefit was that successfully completed construction contracts could help to open up new markets for other Hungarian exports, particularly in oil-rich but politically difficult countries like Saudi Arabia.

But the Hungarians have now found that their domestic surplus capacity is not directly marketable abroad, mainly because most domestic contractors lack experience in managing and integrating large and complex projects. The Hungarian economic weekly Heti Vilaggardasag recently descibed the domestic construction scene as "characterised by missed deadlines, contractual disputes and gaps in co-operation with sub-contractors."

According to Mr Laszlo Kozma, deputy managing director of the Hungarian contractor Emexport, the same problems are carried over into foreign contracts.

"There is often a conflict of interest between main and sub-contractors with the former exposed to the monopoly position of the latter. The sub-contractor seldom supports the main contractor in risk bearing," he told Heti Vilaggardasag in a recent interview.

Hungarian contractors have also run into problems with materials and equipment. More often than not the foreign client specifies a foreign product with which he is already familiar. But even when this is not done, Hungarian products only rarely meet either the price or quality standard required. The resulting low domestic content on materials is a further drain on the profitability of overseas contracts.

Thus, instead of enabling the use of surplus domestic construction capacity, Hungary's foreign ventures have forced the country to create new capacity at a cost of several billion forints.

But that is not the end of the problem for the new foreign contracting industries. In order to gain contracts against stiff competition from established Western contractors, Hungarian contractors adopted a loss-leader approach to the international market.

Tenders were made particularly attractive by submitting them at or even below cost on the assumption that losses made on the initial contracts could be recouped on subsequent ones.

The approach certainly brought in the business, producing an average 30 per cent increase in foreign contracts value in both 1981 and 1982. Current activities include the design of a 500km railway between Libya and Tunisia, mass housing projects in Libya and Algeria, reconstruction of the port of Calabar, design work for the new capital of Abuja in Nigeria and, most recently, construction of a section of the Calcutta underground.

But while the initial contracts have been successfully won, the profit-making subsequent ones have not. Hungary's loss-leader approach has turned into a loss-maker.

Emexport, for example, reckoned on gaining contracts for the construction of several thousand apartment in a mass housing project at Zinta, Libya. So far, however, it has gained contracts to build only 700 against non-recoverable start up costs of 300m forints ($6.7m).

Another problem is lack of hard currency capital which forces contractors to rely heavily on credit. But Hungarian contractors have only one source of borrowing, the Hungarian National Bank, which has cut back sharply on hard currency loans and raised its interest rates to the same levels as those obtaining in the West. With the slump in new orders and the seven to eight year time scale of many of the major contracts, more and more contractors are being caught in a vicious squeeze.

According to Mr Kozma, the situation can only be saved by a change in policy – a switch away from main contracting in large projects to sub-contracting, particularly for Western firms. "Export work will have to take account of our own resources and adapt to market conditions. We should attempt to contract only for small-scale, low price-tag projects which have a smaller financing requirement and a quicker period of return."

SHIPPING REPORT

Owners hope for winter revival

BY ANDREW FISHER, SHIPPING CORRESPONDENT IN LONDON

AS SHIPPING markets attempt to regain the impetus that was interrupted by the summer doldrums, shipowners are having to look even more sharply at their financial position and prospects.

Last week was another uninspiring period for owners, with rates on the tanker market tending to slip back after steadying the previous week.

In the dry cargo market, Matheson (Chartering) said in its monthly review that owners had been disappointed recently by the slowness of the market to respond to improved seasonal demand.

This, it added, was "a reminder that the current recession is one of unusual intensity." But there should be some revival of grain activity during the winter, with the gradual emergence of the U.S. and other countries from recession stimulating more trade and shipping activity.

Matheson noted, however, that for many owners, "a 5 or 10 or even 20 per cent increase in freight rates this winter would bring little comfort." This bore out the fact that "the variance in the financial background between one owner and another has probably never been greater than it is today."

To illustrate this, Matheson cited the owner of a late 1970s-built Panamax bulk carrier – between 60,000 and 60,000 deadweight tons and able to go through the Panama Canal – which had been written down in value over a period including several profitable years. It would have cost around $12m to build.

This could well be competing with a one-year-old vessel of around the same size which cost $25m "and has operated in abysmal conditions since she was delivered from the yard."

In turn, the owner of the latter ship could soon be operating against cheaper vessels ordered this year at the lower prices, say $19m for such a vessel, offered by desperate yards during the world slump in shipbuilding. Thus, concluded Matheson: "What could be a bearable freight market for one owner can be an unmitigated disaster for another."

Sharp fight for Djibouti contracts

By Andrew Gowers

WESTERN, EAST bloc and Third World companies are entering the final stage of a battle over several important industry and infrastructure contracts worth upwards of $80m (£50m) in the small but strategically placed African republic of Djibouti.

Mr Moumin Bahdon Farah, the country's foreign minister, said in London at the weekend that the Government would select companies to construct a new cement works in the capital, Djibouti, and a vital road link between the capital and the northern town of Tadjoura before the end of this year.

He declined to name the top contenders, but said that there were 18 from several East and West European and Arab countries as well as China and South Korea, still in the running for the $50m road project, which is financed by Saudi Arabia. The cement works, which is expected to produce about 100,000 tonnes of cement per year and to cost between $30m and $36m, has yet to go out to tender. But Djibouti will be looking for finance for this and a number of smaller projects at a United Nations and World Bank sponsored aid conference which it is hosting

Djibouti, a former French colony wedged between Ethiopia and Somalia at the southern end of the Red Sea, lives primarily from French and Arab aid and services associated with its support. A new French and Italian-built container terminal, which it is hoped will be able to handle 22,000 units in its first year and an eventual volume of 40,000 units, will be completed by August, 1984, the Minister said.

The Republic's ambition is to serve as a major entrepôt for trade between East Africa and the Arab world. At present, Ethiopia does a significant amount of its trade through the port via a rail link with Addis Ababa, though the railway is only working at 40 per cent capacity owing to damage during the Ogaden war.

Boeing wins Jetfoil deal with Indonesia

BY LYNTON MCLAIN IN LONDON

BOEING Marine Systems has sold four Jetfoil hydrofoils to Indonesia in a $150m initial contract involving the purchase and joint production of the craft in Indonesia.

The development marks a further step by Indonesia towards the acquisition of advanced aircraft-type technology. Licence production agreements have been signed previously with aircraft makers in Germany, France, Spain and the U.S.

The high-speed Jetfoils are to be used to help Indonesia enforce its exclusive economic zone. This runs as a band around the islands of Indonesia, embracing the archipelago as a single entity, but with free access for foreign merchant ships.

The hydrofoils will support three Boeing 737 aircraft, fitted with side-mounted military radar for maritime surveillance.

Indonesia has taken options on six more Jetfoils. If exercised, these options would bring the total value of the contracts to $330m, Boeing said. Under the initial $150m contract, Indonesia will be able to make the hulls and sell Jetfoils to customers in South-East Asia, but only if Indonesia takes out the options to buy the six further craft. The hulls for the six craft would be made in Indonesia.

Under the initial contract, Boeing will assist PT Pabrik Kapal, the Indonesian national shipbuilding company, to develop the capability to manufacture the high-technology hydrofoils. Boeing is to retain control over the most advanced aspects of the Jetfoil design. These include critical parts of the struts, underwater hydrofoils and the automatic control system which balance the craft in heavy eas. All these parts will continue to be made by Boeing in Seattle, Washington and supplied for sub-assembly by PT Pabrik Kapal.

Indonesia purchased its first Jetfoil in 1981. This craft was used to evaluate the potential of hydrofoils for coastal patrol and commercial application.

As a result, the Indonesian navy has identified a long-term requirement for up to 47 Jetfoils, Boeing said. Passenger carrying Jetfoils on commercial service would be on top of the naval requirements.

Boeing Jetfoils are in commercial service between Hong Kong and Macao, in the Sea of Japan, around the Canary Islands and over the English Channel between Dover and Ostend, Belgium.

The U.S. Navy also uses six larger missile-carrying petrol hydrofoils.

World Economic Indicators

INDUSTRIAL PRODUCTION
(1975 = 100)

					% change over previous year
	Aug. '83	July '83	June '83	Aug. '82	
U.S.*	150.5	149.2	146.3	138.4	8.7
	July '83	June '83	May '83	July '82	
UK	101.7	104.6	103.8	97.4	4.4
W. Germany	102.6	118.9	116.8	98.0	4.7
Italy	114.5	118.5	121.1	122.5	−6.5
Netherlands	89.0	105.0	108.0	88.0	1.1
	June '83	May '83	Apr. '83	June '82	
France	118.7	118.7	119.7	119.6	−0.8
Japan†	103.8	102.6	102.4	101.7	2.1

* 1967 = 100. † 1980 = 100.

Source (except U.S., Japan): Eurostat

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هكذا من الأصل

STATISTICAL TRENDS: CANADA

Economy picks up in wake of recovery in the U.S.

CANADA'S overall economic growth waot strikingly into reverse in 1982; results for the first half of 1983 show an up turn closely reflecting the recovery in the U.S. though not expected to match the growth rates predicted for the U.S. economy in 1983/84.

During the 1960s and early 1970s, sustained growth was made possible, yielding large increases in per capita income by substantial increases in productivity and increases in the population active in the workforce; during the mid-1970s, the growth of labour productivity slowed but was still offset by increases in the labour force.

Recession

In the mid-1970s, attempts to further the already high growth rates pushed prices and wage rates higher than in the U.S. For a while, a fall in the exchanga rate compensated for productivity growth rates lower than those being experienced in other industrialised countries.

The growth in the merchandise trade surplus during 1976 to 1981 was due to the relatively favourable production costs compared with other countries. The improvement in competitiveness came partly from the depreciatioo of the Canadian dollar against the U.S. dollar in 1977/78, and partly because production costs kept in line with those in the U.S.

The swiog to surplus on the current account in 1982 reflected an improved competitive postion, a substantial increase in the balance of vehicle trade with the U.S. and an improvement in oet anergy exports.

Swing

Profits suffered a severe set-back in 1982, leaving problems for future industrial expansion. An analysis by the OECD of the trend in profit shares over the previous 30 years shows a gradual decline between 1955 and 1970, after which the trend flattened, but with substantial year-to-year fluctuations which could indicate that the 1982 experience was a cyclical event.

Commentary by Our Economics Staff; data analysis by Financial Times Statistics Unit; charts and graphs by Financial Times Charts Department.

Rates of return have been on a declining trend, and capital/outpnt ratios on a rising trend since 1955—well before the oil crises.

In 1982, production and consumption of oil fell into step following a world slump in demand for energy and falling oil prices. But an oil trade deficit still occurred because of a swap of heavy oil exports for light oil imports.

Substantial downward revision to the receipts in the federal budgel, and increases in the expenditure forecasts are leading to an increase in the deficit as a percentage of GNP to around 7 per cent in 1982/83.

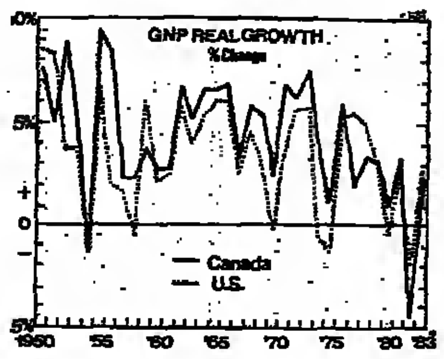
GROWTH PATTERNS

Percentage change; annual averages

Period	real GNP per employee (productivity)	real GNP per capita	employment to population
1962/72	2.62	3.87	1.22
1972/76	1.25	3.16	1.88
1976/81	−0.26	1.46	1.73
1982	−1.20	−5.57	−4.42

Source: Bank of Canada Review

General Economic



UNEMPLOYMENT RATES

	U.S.	Canada
1974	5.5	5.3
1975	8.3	6.9
1976	7.6	7.1
1977	6.9	8.0
1978	6.0	8.3
1979	5.8	7.4
1980	7.0	7.5
1981	7.5	7.5
1982	9.5	10.9
1982 Q4	10.5	12.6
1983 Q1	10.2	12.6
Q3	9.9	12.3

Source: OECD

CONSUMER PRICE INDEX
% change on previous year

Year	Canada	U.S
1971	3.04	4.25
1972	4.63	3.46
1973	7.65	6.10
1974	10.84	10.95
1975	10.79	9.20
1976	7.61	5.82
1977	7.92	6.51
1978	9.04	7.61
1979	9.01	1.24
1980	10.25	13.51
1981	12.40	10.40
1982	10.85	6.07
1983*	6.00	3.40

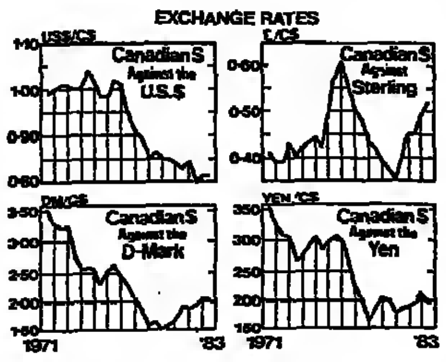
* Estimate

Source: IFS

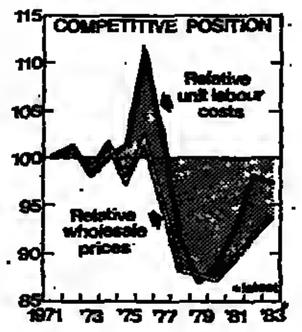
UNIT LABOUR COSTS
1975=100

Year	Canada	U.S.
1971	71.7	79.0
1972	73.5	79.0
1973	76.0	82.0
1974	85.7	89.0
1975	100.0	100.0
1976	108.2	101.0
1977	114.8	107.0
1978	120.1	114.0
1979	129.5	122.0
1980	147.4	137.0
1981	164.5	146.0
1982	188.5	159.0

Source: OECD



Competitiveness

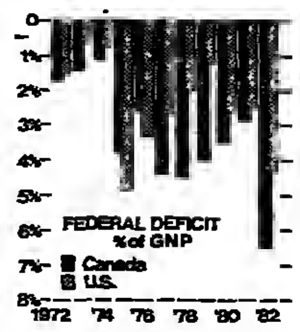


PRODUCTIVITY IN MANUFACTURING
(Output per man hour)
Average annual growth %

	1951-73	1974-81
Canada	4.3	1.1
U.S.	2.8	1.5
Japan	10.0	6.2
France	5.3	4.2
Germany	5.8	4.4
UK	3.4	2.2

Source: OECD

Finance



Trade

CURRENT ACCOUNT
(C$bn)

Year	Current account balance	Merchandise exports	Merchandise imports
1971	0.43	17.9	15.3
1972	−0.39	20.1	18.3
1973	0.11	25.5	22.7
1974	−1.46	32.6	30.9
1975	−4.76	33.5	33.9
1976	−4.11	38.2	36.6
1977	−4.33	44.5	41.5
1978	−4.92	53.4	49.0
1979	−4.84	65.6	61.2
1980	−1.07	77.1	68.3
1981	−5.77	84.5	77.1
1982	3.02	84.6	66.2

Source: Statistics Canada

CURRENT ACCOUNT BALANCE
by selected area
$m

	U.S.	UK	Other EEC	Japan
1977	−4,022	274	− 342	758
1978	−4,321	157	− 932	654
1979	−7,581	562	153	1,919
1980	−7,852	1,615	2,154	1,580
1981	−7,567	933	254	298
1982	− 772	274	− 473	913

Source: Statistics Canada.

EXPORTS BY COMMODITY

	Farm and fish	Forest products	Energy	Metals	Vehicle parts
1975	4,248	5,094	5,413	5,333	6,525
1977	4,837	7,877	5,477	7,286	10,597
1979	7,025	11,787	9,019	10,308	12,197
1981	9,830	12,854	11,856	13.741	13,639
1982	10,482	11,961	12,673	11,472	17,051

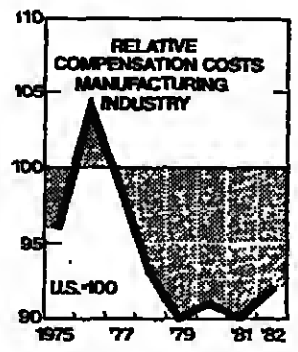
Source: Statistics Canada

IMPORTS BY COMMODITY
C$m

	Energy	Industrial mats.	Vehicles, parts	Machinery, equip.	Consumer goods
1975	4,146	6,393	8,596	7,387	6,019
1977	4,116	7,849	11,989	8,453	7,863
1979	5,715	13,893	15,839	13,261	10,231
1981	9,605	17,022	16,783	17,777	12,564
1982	6.684	13,934	15,696	15,383	11,964

Source: Statistics Canada

Industry



CORPORATE PROFITS
Before tax
(C$m)

1973	15,417
1974	20,062
1975	19,663
1976	19,994
1977	20,940
1978	25,722
1979	34,000
1980	37,266
1981	33,008
1982	21,102
1983*	28,028

* First quarter annualised.

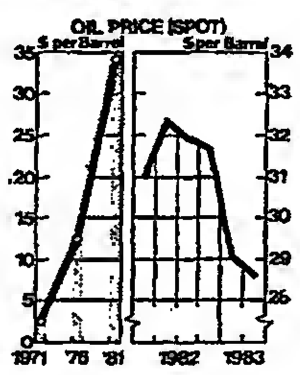
Source: Statistics Canada

Energy

PROFIT AND CAPITAL OUTPUT RATIOS: MANUFACTURING

Profit share	Canada %	U.S.
1955/64	34.9	26.2
1965/74	32.6	26.8
1975/81	33.1	25.0
1982	27.4	18.9
Capital/output ratio	**Ratio**	
1955/64	2.07	1.30
1965/74	2.27	1.25
1975/81	2.62	1.61
1982	3.51	2.05

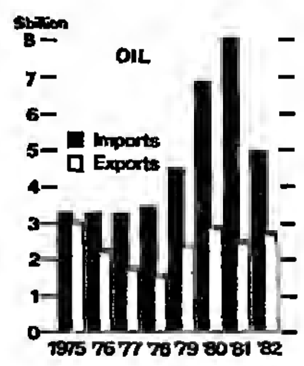
Source: OECD



ENERGY TRENDS
Oil (000 b/d)

Year	Oil (000 b/d) Product'n	Oil (000 b/d) Consumption	Gas (million tonnes oil equiv.) Product'n	Gas (million tonnes oil equiv.) Consumption
1972	1,830	1,655	69.3	39.3
1973	2,115	1,755	69.6	41.8
1974	2,000	1,785	67.8	42.2
1975	1,735	1,735	68.9	43.3
1976	1,605	1,790	69.3	46.1
1977	1,610	1,810	72.7	45.9
1978	1,575	1,835	70.0	47.3
1979	1,770	1,915	75.1	50.1
1980	1,725	1,855	69.1	49.3
1981	1,545	1,760	67.4	47.8
1982	1,530	1,580	63.0	43.0

Source: BP Statistical Review



ENERGY DEMAND

Shares (%)	1973	1981	1986
Oil	61.9	50.7	45.7
Gas	18.4	24.1	24.3
Electricity	14.7	16.9	18.9
Solid fuel	5.0	7.9	11.1

Source: IEA

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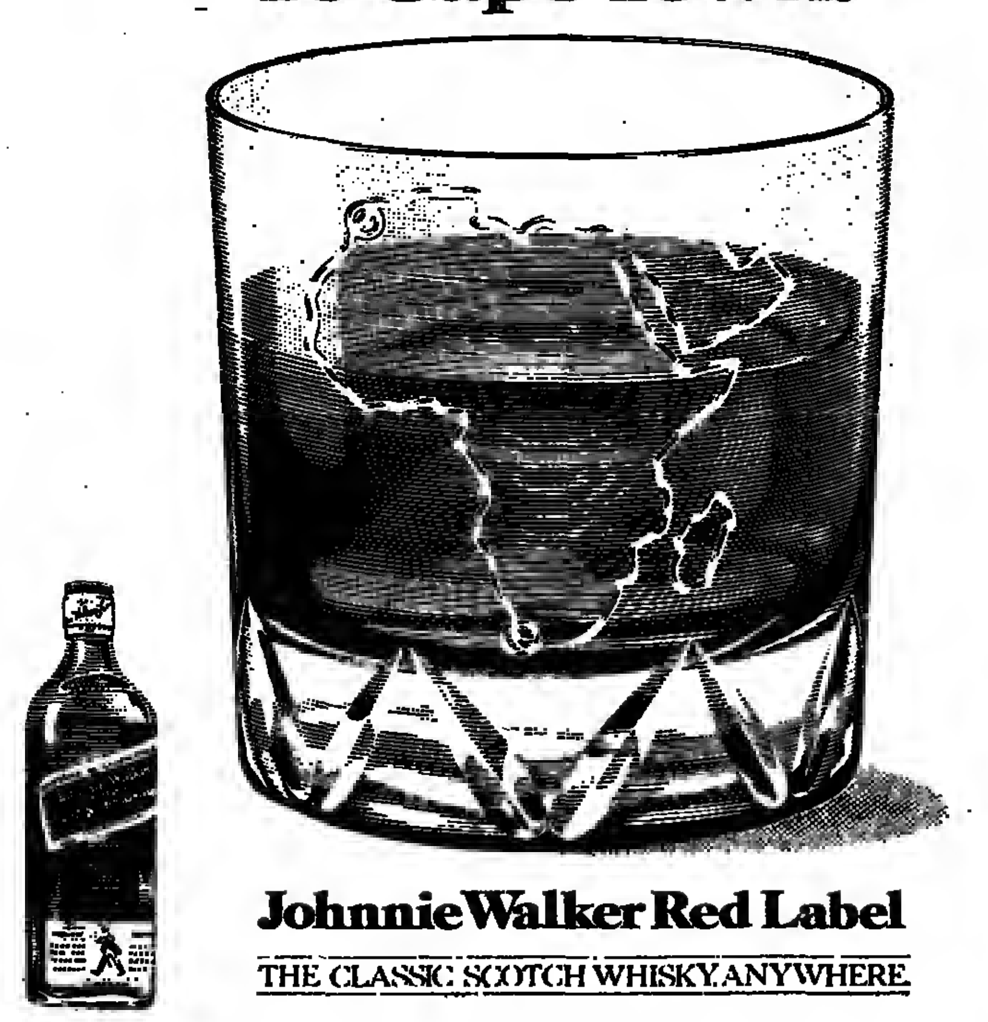

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Energy review every Wednesday in the FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

OVERSEAS NEWS

Setback for SA union council

BY BERNARD SIMON IN JOHANNESBURG

EFFORTS by the Trade Union Council of South Africa (Tucsa), the country's biggest trade union grouping, to make it more representative of tho country's workers have suffered a serious setback with the withdrawal from its ranks of South Africa's largest multiracial union, the Boilormakers' Society.

The society's decision to leave Tucsa has brought to o head growing criticism of the council's conservative stance oo both labour and political issues.

The 54,000-member Boilermakers' Socioty has indicated that it will not join any other union grouping for the time being, but its withdrawal from Tucsa is bound to enhance the status of Tucsa's two main rivals, the Federation of South African Trade Unions (Fosatu) and the Council of Unions of South Africa (Cusa).

Both Fosatu and Cusa, whose affiliates have o combined membership of 150,000–200,000 workers, are groupings of more radical, mainly black, trade unions formed in the wake of labour reforms in the late 1970s.

The Boilermakers' union has criticised Tucsa for some time for its failure to keep pace with workers' aspirations and its reluctance to co-operative with the "emergent" Fosatu and Cusa union. Tucsa's general secretary, Mr Arthur Grobbelaar, publicly supports the South African Government's controversial proposals for o new constitution.

Tucsa unions are generally favoured by the Government and employers for their "responsible" attitude to labour relations. But the Council's influence among workers and even liberal managers has steadily waned in recent years.

Tension between the Boilermakers' Society and Tucsa rose further at Tucsa's annual congress last week when the union opposed moves against trade unions which refuse to register with the Government. Other unions also rejected its call for workers bound by closed shop agreement to be allowed to join any union of their choice.

Mr Ike Van der Watt, the widely respected general secretary of the Boilermakers' Society, said that his union will try to encourage links with the International Metal Workers Federation. This body's members already include Tucsa, Fosatu and Cusa unions.

Hindus take reprisals after killings

By K. K. Sharma in New Delhi

SHOPS AND BUSINESSES owned by Sikhs were attacked in many towns in Haryana state at tho weekend by angry Hindu mobs following the killing of 10 Hindu passengers in buses and trains by Sikh *extremists* in the neighbouring state of Punjab late last week. New attacks by Sikhs in small Punjab towns were also reported.

The rioting, accompanied by angry exchanges between leaders of the Sikh Akali party and the influential Hindu nationalist Bharatiya Janata Party (BJP) the possibility of Hindu-Sikh sectarian strife threatened to create fresh tensions

The Janata Party issued a call for o general strike in Delhi and Haryana state today. Since there are substantial Sikh minorities in these areas, the authorities are making preparations to deal with fresh violence.

Outlawed religious party to hold talks with Zia

BY JOHN ELLIOTT IN KARACHI

PRESIDENT ZIA UL-HAQ of Pakistan has agreed to hove official talks with an outlawed party opposed to his policies. Tho move is his first such concession since violont demonstrations against his martial law regime started *nearly* two months ago.

This afternoon, ho is to meet a dolegation from a right-wing religious party, the Jamiat-i-Ulema-i-Pakistan (JUP), which had threatoned to launch direct action against the Governmont if talks were not held.

The party does not belong to tho main Movoment for Restoration of Democracy, which ombraces nine political parties ond has been organising tho domonstrations. It is not thorefore in a position to conclude a national deal with Presidont Zia to ond tho crisis.

But the fact that tho President has agreed under pressure to havo the talks is significaot, because the Jamiat's demands are similar to those of the Movement, ond include the restoration of democracy.

The Movement's political activists believe that the talks may prove to be no more than an *oftempt* by the Government to defuse tension following the *past fortnight's local elections*.

The total number of dead since the demonstrations started on August 12 are put at 60 by the Government and at 140 by independent observers.

The onnual Muslim 10-day period of Muharram, which in past years has caused clashes between Shia and Suoni muslims, is just storting. The Movement for the Restoration of Domocracy and various lawyers' organisations are planning a further wave of domonstrations starting around October 19, after the end of Muharram, and hope to avoid clashes doring tho observances.

MITCHELL COTTS

International Engineering, Transportation and Trading

1982/83 RESULTS

- **Improving U.K. performance helps Mitchell Cotts weather overseas difficulties**
- **Europe including the U.K. this year accounts for 62% of profits**

	Years ended 30th June 1983 £000s	1982 £000s
Profit before Interest and Taxation	12,570	15,065
Interest (net)	5,193	5,329
Profit before Taxation	7,377	9,736
Taxation	4,108	5,890
Profit after Taxation	3,269	3,846
Minority Interests	13	914
Profit before Extraordinary Items	3,256	2,932
Earnings per share	4.49p	4.40p
Extraordinary Items	(1,999)	717
Net Attributable Profit	1,257	3,649

ANALYSIS BY TERRITORY	Turnover £000s	Profit £000s	%	Turnover £000s	Profit £000s	%
*Europe	103,904	7,900	62	106,757	4,980	32
South Africa	236,592	3,528	27	211,661	8,336	53
East and Central Africa	31,821	2,243	17	32,648	1,910	12
Americas and Australasia	33,002	(804)	(6)	36,559	435	3
	405,319	12,867	100	387,625	15,661	100
Expenses and Interest		(5,490)			(5,925)	
		7,377			9,736	
*Includes United Kingdom	83,840	5,915		82,718	4,221	
ANALYSIS BY ACTIVITY						
Engineering	195,806	7,051	55	200,167	11,251	72
Transportation	178,684	4,142	32	160,098	4,169	27
Trading	30,829	1,674	13	27,360	241	1
	405,319	12,867	100	387,625	15,661	100
Expenses and Interest		(5,490)			(5,925)	
		7,377			9,736	

The reduced level of profit arises mainly from the difficult first half: in the second six months there was in consolidated terms a return to almost normal levels. The improvements come from Europe including the U.K. We are confident that even when overseas profits return to normal levels, it will be seen that important changes have taken place in the balance of Mitchell Cotts. I would certainly hope results for the year to 30th June 1984 will show some improvement.

P. P. DUNKLEY, CHAIRMAN

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The above figures are abridged and unaudited. The Annual Report and Accounts will be posted to shareholders on 7th November 1983.

LONDON STOCK EXCHANGE

Equity market's future hangs on crucial vote

Stock Exchange members meet tomorrow to vote on constitutional changes which form part of the agreement with the Government to exclude the exchange from the Restrictive Trade Practices Act. Ahead of the meeting, Richard Lambert interviews Sir Nicholas Goodison, the Stock Exchange chairman.

Has the Government let you off the hook?

I believe it is totally wrong to say the stock exchange has been let off lightly. Wo have had a system of fixed commissions since 1911. Wo are undoing in short order a regime that has persisted for more than 70 years. Nobody knows the consequences of that action. As people reflect, they are beginning to understand that something radical is happening.

The Stock Exchange Council was not choosing between o good course and o bad course in coming to this decision. It was choosing between two courses, each of which entailed considerable risk.

What is the mood of your members?

There is considerable unease about the implications of what the Government wants us to do. I understand that unease.

Members fear – and the Stock Exchange Council fears – that the dismantling of minimum commissions might lead to the ending of single capacity – the separation of principal and agent – and that *would have serious regulatory* consequences if it happened. They fear for the compensation fund, which is a voluntary fund subscribed by the members, who have unlimited liability for it. These fears, and several more, would of course have been evident during the progress of the court case.

How long will it take to move to fully negotiated commissions?

I think it unlikely that the exchange would want to use the entire period allowed under the agreement to the end of 1986.

But it would be mad to dismantle commissions immediately, for two reasons. First, it is right and proper that the council should take soundings among members and users of the market, because it is a major move. Second, the council bears a heavy responsibility for regulation, and it would be wrong for the council to take fast action on one of the main pillars of the market without knowing what it would do to protect investors, were some of the fears that members have expressed to be realised.

Will you be able to maintain the separate role of broker and jobber once commissions are negotiable?

The separation of capacity in this way is council policy. We will maintain single capacity as long as it is commercially desirable, and as long as tho users of the market want us to maintain it. It provides a liquid and continuous market. It is also a very strong regulatory tool, and avoids conflicts of interest effectively and economically.

What will you do if single capacity breaks down?

Wo would be failing in our duty if we abolished fixed commissions without having thought through the alternative trading methods that would be needed in order to protect investors, were the present trading system to break down. Wo would need to consider not only alternative trading methods but also reporting requirements and other measures that would be needed to deal with conflicts of interest.

How far will commissions fall?

I really cannot foresee. I suspect that equity commissions will not be under such pressure as they were in the U.S. when Wall Street moved to negotiated commissions. I am not aware of widespread criticism of the levels of equity commissions, which are internationally competitive, and we introduced volume discounts in the early 1970s.

Indeed, the parallels drawn between what happened in the U.S. and what might happen here are, I believe, misguided. There are so many differences between the U.S. and here.

There has, on the other hand, been criticism of the level of commissions on government securities.

Will you be able to preserve the compensation fund?

It is council policy to maintain the fund. But the members back the fund with their own pockets and have unlimited liability to it. Wo will have to convince them that with negotiated commissions the risk is acceptable.

In order to do that, we will have to rely on close surveillance of what is going on. The introduction of negotiated rates will require closer monitoring of firms' activities, which means more expense at the centre.

Will you change the rule which limits an outside investor's holding in a member firm to under 30 per cent?

Wo increased the limit from 10 to 29.9 per cent in 1982 to allow firms to find ways of introducing more capital into their business so that they could compete more effectively with powerful houses around the world. We think it would be foolish to extend it in a hurry. Wo need to give a great deal of thought to the potential conflicts of interest if other financial institutions become more involved in stockbroking or stockjobbing.

How will the shape of the Stock Exchange Council be changed by the introduction of lay members?

I am fairly certain that we will not want to increase the size of the council, unless we have to do it temporarily to allow for the appointment of the first lay members. How we will resolve the problem of the council's heavy workload I do not yet know. It is a very expert and professional body, and I do not want to see its effectiveness damaged.

How difficult will it be to control and manage the pace of change in the securities industry?

This question was a key point in the council debate. If wo had contineed with the inappropriate legal proceedings, there would have been no management of change either by the Government or by us. Under the agreement, there is some chance of establishing reasonable control – and with the monitoring authorities in place and the sub-committee of the Council for the Securities Industry in place, we must all have o better chance of managing change.

How important is Tuesday's vote?

Very important. There is o fundamental change taking place.

I have no feelings at present of what the outcome will be. One thing I am absolutely certain about is that the council took the right decision when it made the proposed settlement with the Government.

What will happen if members vote against the proposals?

I have been told quite clearly that the introduction of these changes is an essential prerequisite of the Government's introducing the necessary legislation to exempt the stock exchange from the court.

Are there any positive features in the changes?

Wo have a strong central market – not, incidentally, a monopoly – in this country, and I believe that we will continue to have o strong central market after the changes. The users realise the advantages of such o market, and so, I believe, does the Government.

I do not want to blow our own trumpet too loud, but I think that we are one of the best regulated and best run stock exchanges in the world.

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Leading Tory joins spending cuts protest

BY JOHN HUNT

MR JOHN BIFFEN, Leader of the House of Commons and former Chief Secretary to the Treasury, yesterday threw his weight behind the group of ministers who are arguing against large-scale cuts in their departmental spending for next year.

He warned against big cuts in spending on the social services and pointed out that the electorate would take its revenge on any party which made deep inroads into the Welfare State.

Mr Biffen also made it clear that he is extremely sceptical about the possibility of the Government's achieving significant reductions in taxation before the next general election.

Meanwhile other issues continued to bedevil the Conservative Party on the eve of its annual conference.

Criticism of Mr Cecil Parkinson, Trade and Industry Secretary, was still rife among Tory MPs who believe that he should resign over the affair with his secretary. Many Tory MPs do not rule out the possibility that Mr Parkinson may give way to his critics and resign despite continued support of him by Mrs Margaret Thatcher, the Prime Minister.

Yesterday Mr John Selwyn Gummer, the new Party chairman, was called to Chequers, the Prime Minister's country residence, to discuss the situation with Mrs Thatcher.

Mr Gummer also announced tighter control of the selection of Tory Candidates following a report from the Young Conservatives, that extremist right-wing "fascist" elements were infiltrating the party.

Mr Francis Pym, the former Foreign Secretary who is a leading moderate in the party, criticised government policy in a long speech at Cambridge. He warned that unemployment was the biggest issue facing the Government, and that it would continue to rise even if there is a sustained economic recovery.


Biffen: sceptical

Interviewed on London Weekend Television's Weekend World by Mr Brian Walden, Mr Biffen took as his central theme that the scope for large scale reductions in public spending were extremely limited. He was particularly dubious about the chances of cutting the defence budget.

His remarks highlight the intensity of the battle now going on in Cabinet over the proposed cuts in next year's public expenditure.

Mr Biffen has now thrown his considerable influence behind the three ministers who are fighting the proposed cuts in their spending – Mr Norman Fowler, Social Services Secretary, Mr Patrick Jenkin, environment, and Mr Michael Heseltine, defence.

His views are opposed to those of the Prime Minister, who still insists thet reductions in income tax must be the priority for economic policy during this Government's lifetime. Mr Nigel Lawson, the Chancellor of the Exchequer, made it clear in a weekend newspaper article that he shares her belief.

It will add further confusion to MPs and the rank and file who are complaining that there seems to be a lack of direction from the top since the Government's landslide victory in the general election.

Mr Biffen in his interview warned that tax cuts could not be purchased by "irresponsible treatment of public spending and of government borrowing." He agreed that tax reductions would be a bonus that the Government might get if things turned out well, but he would not like to forecast what the position would be by the time of the next general election.

Tax cuts were a very laudable objective, but the Tory Party had a well-established tradition of the protective role of the state.

He believed thet tradition was consistent with "realism and with a sense of responsibility, all of which could be demonstrated in electoral terms."

The Treasury always wanted to trim public spending as much as possible, "but there is a political imperative which is buttressed by formal political commitments which puts a very clear limit on those ambitions."

Although the Prime Minister and Chancellor wanted tax cuts, "these are matters that have to be secured against a realistic appraisal of the government's responsibilities for public spending and borrowing," he added.

Regional aid cash may be slashed

Financial Times Reporter

PLANS to cut the total amount of finance available for regional assistance to industry, and to establish stricter aid criteria to ensure more emphasis is given to job creation, have been approved by a Cabinet sub-committee.

Details of the scheme proposed by Mr Cecil Parkinson, Secretary of State for Trade and Industry, are expected to be finalised later this year, and will be published in a White Paper.

Its broad outlines were agreed at a meeting of the sub-committee last week, at which Mr Parkinson set out his proposals for a new approach.

His department spent £811.5m on regional aid last year. Of that, about £690m consisted of development grants for assisted areas, and a further £131m was committed under Section 7 of the Industrial Development Act to help generate employment.

Ministers believe, however, that the regional development grants, paid automatically to any business investing in an assisted area, have proved a costly way of creating jobs. In some cases, each new job cost £50,000 in government aid.

The Government is expected to reduce the amount of funds available, although the size of the cut has yet to be decided.

It also plans to introduce stricter rules designed to direct aid with greater precision than has been possible under the system of automatic payments.

The principle of designating assisted areas will be retained in the new approach, largely because Britain could not reclaim aid from the EEC regional fund if it were abolished. But the map of qualifying areas will be redrawn.

Greater emphasis will be paid to regions with high unemployment, and to travel-to-work areas – commuting zones which extend beyond city boundaries.

The Government is also expected to devise a formula which will seek to relate grants to the number of jobs involved in a given project.

Ford invests £74m at Transit plant

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

FORD is to spend £74m to turn its Transit van plant at Southampton, Hampshire into one of the most highly-automated commercial vehicle facilities in Europe.

The group said yesterday that the investment programme – one of the largest ever announced for the British commercial vehicle industry – would be completed by the end of 1985. Ford thus clearly indicated when it will launch a replacement for the 17-year-old Transit.

As part of the complete re-organisation at Southampton, 88 robots and 50 programmable welding units are to be installed. This investment in high technology should enable the project to attract grants of between 15 and 20 per cent of the cost.

Ford has assured the 3,200 hourly-paid employees at Southampton that there will be no forced redundacies.

However, it said the general push for extra productivity throughout all its British plants would probably mean fewer jobs at Southampton

Strike peace formula, Page 11

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Answer:

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THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

Learning from Japan

'We wondered what on earth had hit us'

Kenneth Williams, head of Kenure Plastics, had a tough time when he tried to supply Japanese TV manufacturers. But he won through, as Peter Moyes reports

Trevor Humphries

A NONDESCRIPT 1930s factory in Feltham, on the western edge of London's urban sprawl, bears all the familiar signs of near-terminal industrial decay.

But only from the outside. Behind the down-at-heel facade of the Kenure Plastics building is a thriving company which, by adopting Japanese production techniques, has turned itself into a premier supplier of high quality precision mouldings to Japanese television manufacturers in Britain.

Its tenfold surge in sales since 1972, to £4.8m, has been achieved by satisfying Japanese standards of price, quality and delivery — *something* of which most western component suppliers are incapable, according to a comprehensive survey published in Japan last month (see FT September 28).

Kenure, a privately-owned company with 200 employees, has not completely escaped the debilitating effects of recession; its profits fell slightly last year from almost £300,000 pre-tax in 1981. But its gradual adoption of Japanese methods over the last decade and its associated investment and modernisation programme costing £2.4m so far have put it in a much stronger position than most of its competitors.

Kenure's first attempts a decade ago to get moulding business from a Japanese company ended in failure when, after numerous discussions and no less than three evaluation visits, the prospective customer decided Kenure did not have the experience, expertise or quality control of its larger competitors.

Kenure only got a second chance because Kenneth Williams, the managing director, thought differently. At Williams' insistence, Roger Atkins, then a sales engineer and now sales director, made repeated visits to the Japanese prospect and patiently nurtured the personal relationships which are so essential in working for and with Japanese companies.

The first order came in a hurry. A larger competitor had failed to meet the quality standards set by the Japanese — could Kenure do better and produce dust covers to Japanese standards?

The Japanese-supplied moulding tools were poor by British standards and there were problems in getting materials to the high specification demanded. But Kenure said "Yes."

Looking back Williams admits "we wondered what on earth had hit us." Kenure had to nurse production at every stage but earned the respect of the Japanese by adhering to its promise to keep the customer's production line supplied.

When the same customer next asked Kenure to mould a part to what by British standards was "a crazy specification" Williams agreed—provided the customer would arrange for him to visit its Japanese contractors to find out how it was done.

The first visit by Williams in the early 1970s (he is at present paying his annual visit there) was the turning point which led to Kenure becoming established as a major supplier of moulded components to most of the Japanese consumer electronics companies manufacturing in Britain. He found:

- **Major differences in moulding practices.** In Britain and Europe the industry traditionally uses "hard" tools manufactured from hardened metals. The Japanese use inferior "soft" tools, which are faster, easier and therefore much cheaper to make, and rely on the skill and dedication of their moulding machine operators to maintain finish quality and remove excess "flash" (the fine sliver of waste plastic formed at the edges where mouldings are removed from the tool).
- **Japanese toolmakers worked shifts** and rigidly adhered to agreed time scales, unlike British toolmakers which Kenure used.
- **Just-in-time deliveries.** Japanese moulders made production deliveries to their customers at frequent intervals according to precise schedules.
- **Emphasis on mechanical handling.** The Japanese were more advanced in the use of mechanical handling equipment. One contractor he visited provided a camera so that Williams could photograph their handling equipment.
- **Lower production costs.** These resulted from lower financing charges, mechanical handling and larger volumes. Kenure calculated that if they had the same volumes as the Japanese, then a press costed at £42 per hour in Japan could be costed in Britain at only slightly more, £46 per hour, but that if lower volume were taken into account the costing would need to be £66 per hour.

Subsequent visits by the managing director, who took his chairman on two occasions, and other key staff intensified the determination within Kenure not only to modernise its operation but to adopt many of the Japanese methods.

Its factory used to be dirty and disorganised. It is now clean and tidy; visitors are struck by the air of confidence it exudes and impressed by the high investment in modern equipment.

In many moulding companies bored operators can be seen unloading finished components from presses and haphazardly removing flash. At Kenure operators are to be seen meticulously trimming and inspecting components before carefully packing them.

Considerable emphasis has been placed on motivation and quality. Geoff Bird, design and technical manager, says that "if we have learned anything at *all from working for the* Japanese it is the importance of quality" and the quality assurance manager has figures to prove it.

Factory *staff* are now taken on visits to customers to see for themselves where their products are used, why quality is important and if Kenure can adopt methods used by their customers. One small by-product is that they have copied their Japanese customers in issuing company overalls. A works committee has also been set up to improve communications and discuss problems and business prospects.

Just-in-time deliveries (an adapted *form* of the Kanban system) are now part of Kenure's philosophy. Roger Atkins claims "we deliver bang on the nail" (normally every week)—and the Japanese are just as precise in their payments, he says. The general manager, Piers Catton, says "We have learned that the Japanese mean what they say. If they want 2,000 on a specific day and we send 1,999, they immediately ring and ask for one to be sent by Red *Star*."

Attention to detail in Kenure is now as meticulous as that of the Japanese. It inspects tools immediately after use instead of finding that a tool is in need of repair when next wanted. Even labels are precisely positioned on the returnable boxes used for *shipping* parts.

It works with soft tools. This year Kenure will be using 40 major soft tools, all imported by its Japanese customers rather than made in Britain because of the domestic industry's reluctance to make them.

The photographs Williams took on his first visit were used to do exactly what the Japanese are good at: copying and improving, although Kenure could not mechanise handling to the same extent because of their greater variety and smaller production runs.

Products are batched together, as the Japanese do, which itself helps reduce both the numbers of changeovers and the actual change-over time.

Although Kenure has reduced tool and machine change-over times by adopting the Japanese "*outside exchange of die*" system, in which as much preparation as possible is done for a tool change while a machine continues moulding, it has not yet adopted "single minute exchange of die" and reduced change-over times to insignificant levels. Williams and his staff believe their present work and volume mix prevents them from completely emulating everything the Japanese do but they are keeping their options open.

Williams is equally emphatic about why the Japanese succeed: "it stems from management and comes from the top." He tells of the occasion when Kenure was having problems with a moulding because of a faulty tool supplied from Japan. The Japanese managing director visited Feltham and actually worked on the *night shift* himself, with a Japanese colleague, inspecting each item off the press to select good ones to keep the production line supplied. Such dedication is infectious; it has certainly had a lasting impression on Kenure's management and staff.

Learning from the Japanese by working with them, visiting Japan to see what they *do*—and why—and then doing the same or better explains why Kenure has succeeded where others have failed. Other companies have been complacent or defeatist about Japanese competition—Kenure went *to* look *for* itself. It is an approach many more managements and companies need to adopt.

The author is a management and training consultant specialising in Japanese management and methods. He is also a non-executive director of two UK electronics companies.

How a bunch of Texans found the Eastern Holy Grail

Jurek Martin on Lone Star Manufacturing's summer pilgrimage

TEXAS, otherwise known as the Lone Star State, is famous for its unique brand of rugged individualism. Japan, on the other hand, has a reputation for conformity and, in corporate affairs, even regimentation. Yet one company from Texas, bearing the name of Lone Star Manufac*turing* no less, appears to have come to the conclusion that, in management, oil and water can be made to mix.

Pursuit of the management Holy Grail, which is currently believed to be residing in Japan, is now a fully fledged international activity. In recent years the merits and exportability of Japanese techniques in quality control, "just in time" inventory adjustment and even company songs and uniforms have been thoroughly debated, often inconclusively. But Lone Star is starting to turn debate into action.

This Fort Worth-based company, with annual sales worth $110m, and with 1,000 employees specialises in car air conditioners. Its principal customer, taking 30 per cent of output, is Mazda, the U.S. sales subsidiary of Toyo Kogyo, for its cars sold in North America. The Mazda connection is 10 years old and thus shares the relative longevity which Japanese companies value so highly. Perhaps because of this, Mazda was clearly instrumental in nudging Lone Star into improving its production *techniques*.

But even Mazda may have been surprised by the enthusiasm with which Lone Star responded—although, of course, there is nothing like a severe recession to excite any management into serious examination of ways to cut costs. What started two years ago with the simple secondment of five Mazda engineers to help improve Lone Star's quality control had escalated this summer to the point where a dozen senior American managers, drawn from every department except finance, spent two weeks in Japan looking not only at how Toyo Kogyo does it but at how Toyo Kogyo's suppliers do it as well.

It was, according to John Wasilchak, Lone Star's president, a well prepared excursion. Having decided to go the whole hog and *despatch* a big management team, Lone Star brought down to Fort Worth a leading U.S. expert in quality control from the University of Nebraska; it set up an in-house library of both technical and general material and ran seminars. It then set out for Japan to try and translate the theories it had absorbed into practical terms.

The lessons gleaned, according to Shiv Mehta, vice-president for planning and administration and a member of the team, were both philosophical and practical and short and long term. "We learned a lot about visual displays" of production processes on the shopfloor, he said, which could be easily and cheaply put into effect in Fort Worth.

The same applied to the use of space. Toyo Kogyo divided the U.S. party into teams in a simple competition in which the goal was to assemble an ordinary flashlight; the whole exercise was videotaped for the purpose of showing the Americans the inefficiencies of how they had gone about the job. U.S. shopfloors, Mehta noted, tend to be more spacious but less effective in the use of people in a given space. Again he expected that it would be simple to institute changes without investing in extra equipment or automation.

Over the longer haul, both Wasilchak and Mehta agreed that the greatest gains could be achieved by increasing worker involvement in the *production process. Lone Star* had made a Japanesque small start in this direction earlier this year by reassigning its 60 quality control inspectors to production line jobs, simultaneously building in and spreading out the quality control load.

Both agreed that more needed to be done to enhance the truly Japanese sense of worker participation in the end product. Education, training and other company programmes could, and would, help, Wasilchak said, but both he and Mehta doubted that the regimenta*tion they had* observed at first hand in Japan could be implemented lock, stock and barrel at Fort Worth.

Mehta added that he thought that Japanese regimentation existed mostly in execution (i.e. actual production) and was not necessarily achieved at the expense of innovation in design. Thus a mix of the two should not be beyond Lone Star's capabilities.

Nor was the Lone Star team over-awed by Japanese technology. Gary Lillard, vice-president, air conditioning systems manufacturing, allowed that he might have been if the visit had been confined just to super-automated facilities, such as Toyo Kogyo's new Hofu factory or Nippondenso's air conditioning operation at Aichi but other Toyo Kogyo suppliers he saw were not necessarily more advanced than *Lone Star's*.

There was, however, some general admiration for the closely-meshed supply network in Japan. Wasilchak maintained that Lone Star was making steps to establish a better, more efficient relationship with its suppliers—through periodically auditing shipments received rather than checking each delivery, for example. One Dallas supplier, he said, was even considering a plant relocation closer to Lone Star's factory but the Confucian values that Japanese businesses place on long-standing, harmonious relations with client companies may not easily be reconstructed in Texas—or by any foreign company seeking a supplier's niche in the Japanese market.

From a practical standpoint, the Lone Star team has gone back to Texas to produce what Mehta described as "a two-level White Paper"—one for the company as a whole and one for individual departments and managers, both with short and long-range features and with provision for frequent updating. They do so with obvious confidence and enthusiasm but, oddly enough, more with the sense of having rediscovered the wheel than having unearthed a new elixir. The Japanese, Mehta and Wasilchak both suggested, have become expert at a lot of the management techniques at which the U.S. used to excel before somehow it lost its way.

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UK NEWS

Noise bill could be £1bn says CBI

By John Lloyd, Industrial Editor

THE CBI has warned that the cost to industry of compliance with noise regulations proposed by the European Community could be £1bn – twice that of complying with existing UK practice.

The EEC's proposal to harmonise occupational noise control in member states, first published in November 1982, calls for a cut in noise levels in plants to 85 decibels, half the noise intensity of 90 decibel levels common to most European states.

A CBI document, "Protecting hearing at work," says "there is no evidence from industry that groups of workers who are continuously exposed to levels of between 85 and 90 decibels suffer substantial hearing loss."

It claims that a chemical plant employing 100 men would need £1.5m to meet British noise regulations, but £3.5m for the EEC proposals.

A paper-making group's estimates were: UK £2.5m, EEC £7.1m.

Safeguarding 38,000 steelworkers would cost £55m to meet UK rules, £145m for the EEC plans.

The CBI says these proposals "further endanger the viability of particular manufacturing processes or of whole companies, with adverse implications for employment, at a time when industry is still seriously affected by the current recession."

It wants the standard based on 90 decibels, "in spite of the considerable costs that will be incurred by industry throughout the Community to meet this level."

This is the second set of EEC proposals strongly opposed by the CBI. It has come out heavily against the forthcoming European legislation on industrial democracy.

"Protecting hearing at Work," CBI, Centre Point, 103 New Oxford Street, London WC1A 1DU; £5.

BIG ADVANCE CLAIMED IN YARN TECHNOLOGY

ICI launches new fibre

BY ANTHONY MORETON, TEXTILES CORRESPONDENT

FIVE WEEKS ago, in the unlikely surroundings of the Holiday Inn in Leicester, ICI Fibres launched a new fibre which it believes will take the company, and eventually the industry, into the 21st century.

A day later at a sports exhibition in Munich, Germany was given its first look at Tactel. The immediate response, according to John Lister, ICI Fibres' chairman, was "most encouraging. We picked up some very good orders."

His subordinates were more ecstatic. Mr Scott Davidson, sales and marketing manager, said: "This is the most exciting thing that has happened to ICI Fibres for years. We have stolen a big lead on our competitors and the new fibre has motivated all our people at Harrogate, where it was developed over the past three years."

Mr Davidson's enthusiasm pervades not only Harrogate, the division's headquarters, but also Pontypool, in South Wales, and Oestringe, near Heidelberg, where Tactel is to be produced.

The reason is that in Tactel, ICI Fibres believes that it has a product which will sell in volume and provide adequate margins to produce at profitable prices.

The more ecstatic managers believe that Tactel will even replace polyester, developed in this country after the Second World War and now the big work-horse fibre for the world's man-made-fibre industries.

Tactel is a new family of polyamides aimed at the clothing market. In laymen's terms, it is part of the nylon family and technically quite distinct from polyester.

One vitally important attribute is that it has the appearance and aesthetics of cotton or polyester rather than nylon and allows, for the first time, a fibre which, according to Mr Lister, "combines a variety of natural aesthetics with the proven versatility, superb performance and easy care of polyamide."

What this means is that Tactel has the versatility of nylon built in with the easy care and attractive look of polyesters.

Since polyesters came on the scene in a big way some 20 years ago, often combined with cotton as polycotton – in shirts, sheets and towels, for instance – nylon has gone into a decline in many areas.

"People have tended to write off nylon," says Mr Lister, "but it still has superb qualities in, for instance, hosiery, lingerie and carpets." The trouble is that for many people brought up in the drip-dry era of the 1950s it was the fibre which, when woven into cloth and made into shirts, produced clothes that were memorable for their sweatiness.

Consumer reaction sank even further when the far eastern producers in countries such as Taiwan, Macao and South Korea swamped the West with a wide range of clothes such as flimsy anoraks which quickly met disfavour among buyers.

Initially, Tactel yarn is being sold to a selected group of weavers in European countries – two in the UK and on each in Belgium, Finland, Portugal, France, Norway, Switzerland and Italy.

The first clothes to be made from Tactel-woven yarns should be in the shops in the autumn of next year.

Policy research centre set up

BY ANTHONY HARRIS

A NEW Centre for Economic Policy Research, to promote new work on policy issues in British and foreign universities and institutes, has been set up in London.

Its Board of Governors includes Sir Douglas Wass, who recently retired as Permanent Secretary to the Treasury, and its financial backers include the Bank of England, the Social Science Research Council, and major charitable foundations.

Morgan Grenfell, the merchant bankers, and the Financial Times have also contributed.

The Centre is the first body of its kind in the UK, acting as a research entrepreneur rather than an in-house institute.

The National Bureau of Economic Research works on similar lines in the U.S.

The Centre, will also be available as a "think-tank" on international issues for industry and government.

The Centre will not take sides, and hopes to promote open debate with rival views fully represented.

The work of the Centre, which will share some facilities with the Royal Institute for International Affairs at Chatham House, will concentrate initially on four major programmes.

The one on international macro-economics will cover the interactions of national policies, possible policy-cordination, and some of the stresses arising from uncoordinated policies.

A second programme will sponsor international discussion of problems facing nearly all Western governments – the ageing of the population and its implications for public spending; technological change, employment and training; and education and health programmes, in relation to economic efficiency.

A third will throw light on national forecasting and policy issues – from taxation, to the determinants and results of investment, and the use of economic models. A fourth will concentrate on trade theory and issues like protectionism.

They will also stress quick publication of discussion papers and research results, for international distribution.

The Board has appointed as its first Director, Professor Richard Portes, a young American economist who has worked for some years in the UK.

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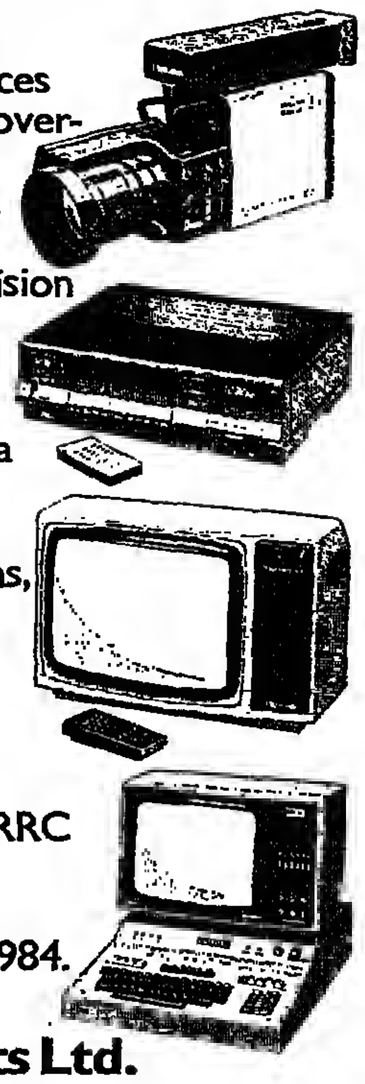

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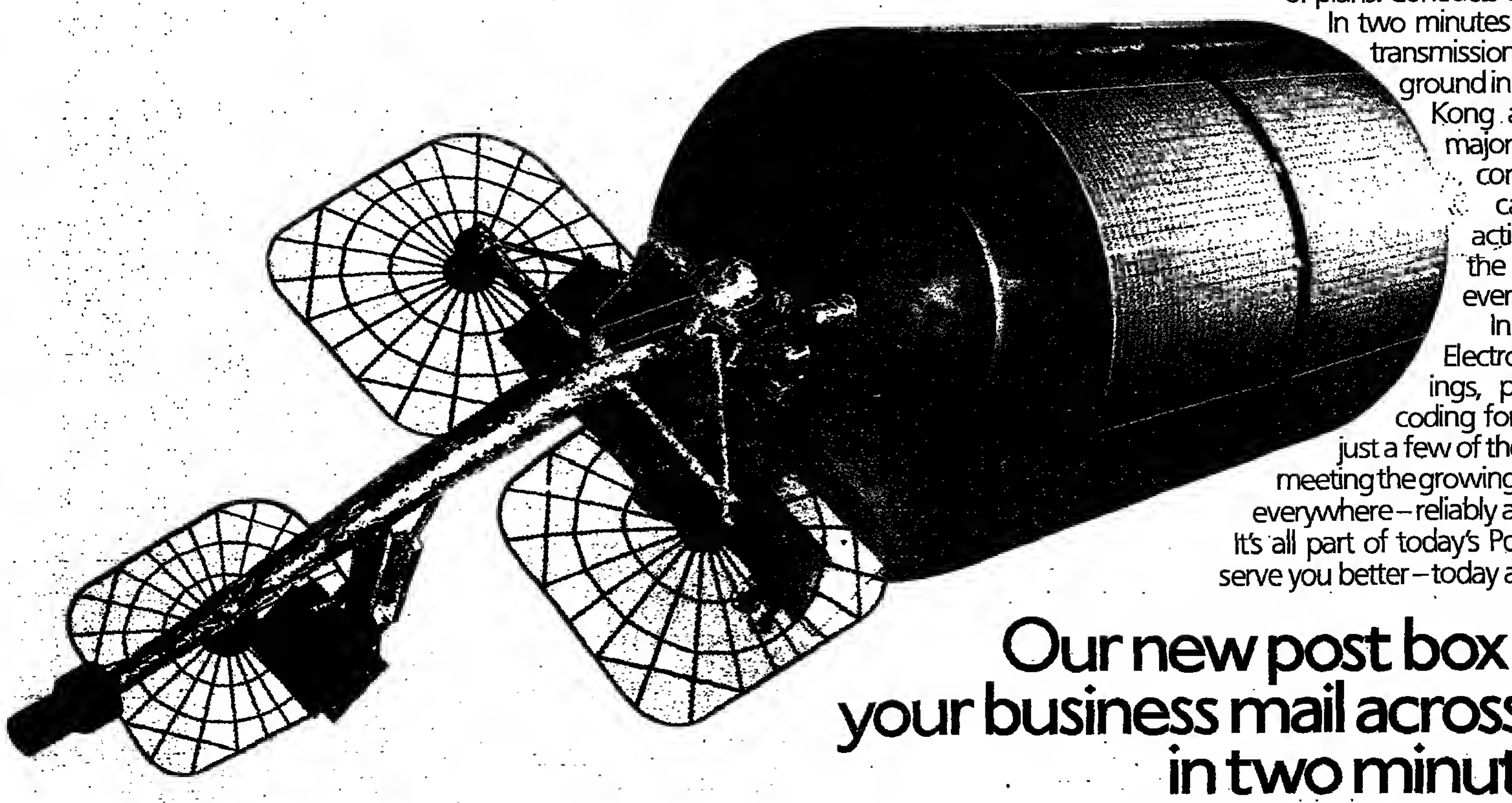

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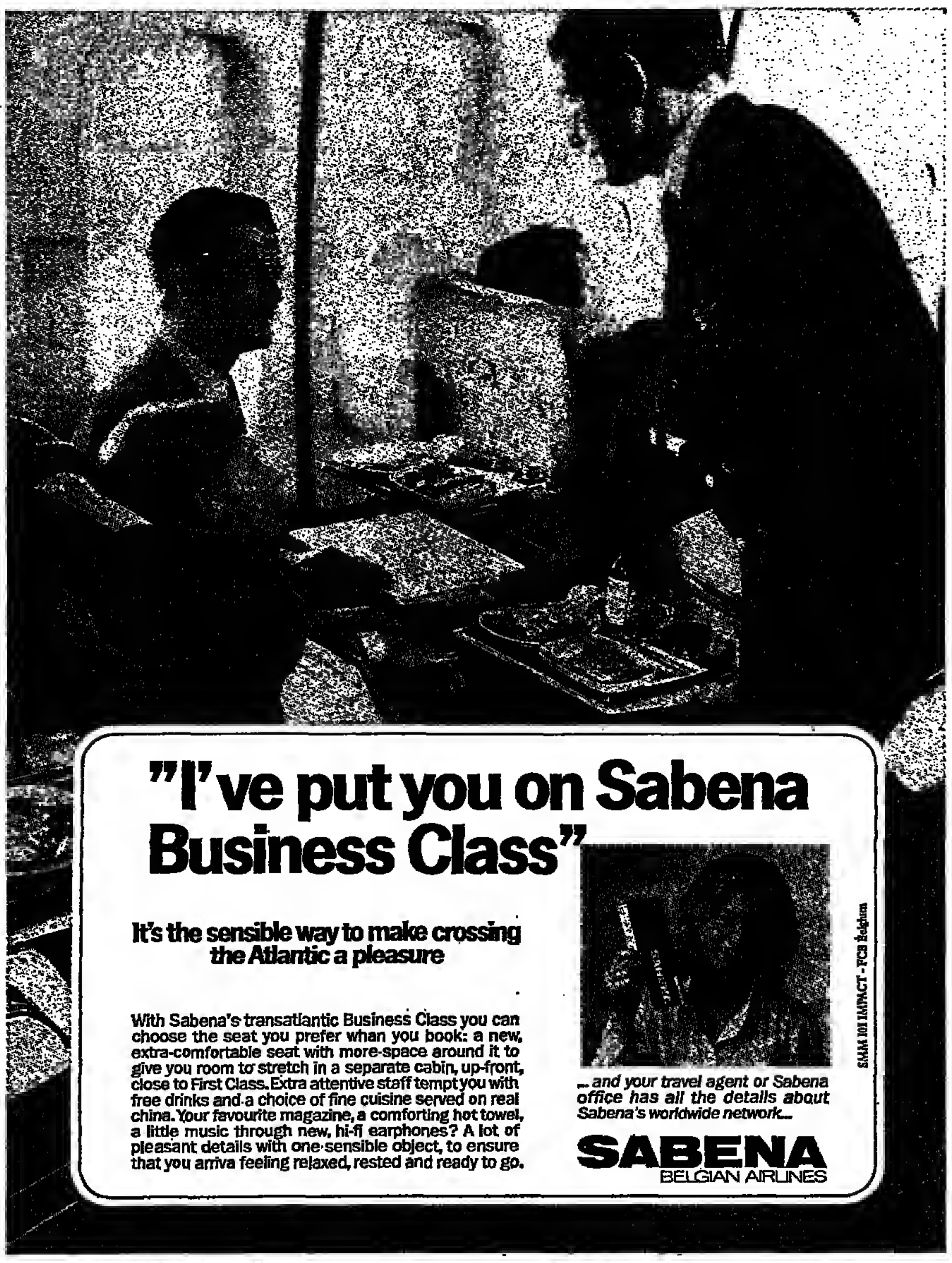

INSURANCE

Competition sends losses soaring

BY ERIC SHORT

INSURANCE companies have been competing keenly for private motor business over the past three years — much more keenly than normal trading rivalry would lead one to expect.

The interim results this year from the leading UK insurance groups have spelt out clearly the effect of this competition. Underwriting losses on UK motor business have soared, even though the weather this year has been favourable to motorists.

The main reason is the recession. There is no overall growth in the commercial insurance market so companies have been looking to expand their share of the personal insurance market so as to secure premium growth that will at least match inflation and stop expense ratios getting out of hand.

Motor business offers a higher return on capital employed than other forms of personal insurance, such as household or travel. The premiums are higher, making the business worth competing for. In addition companies have use of the premiums and reserves for longer periods, and can take advantage of high interest rates.

Competition has been in two areas. First, companies have held basic premium rates unchanged for longer than the normal 12 months. This meant premium rates fell in real terms. When companies did review their rates the increases were lower than would have been justified on underwriting considerations.

Second, insurance companies assess premium rates on many factors, including where motorists live and the types of car they drive. Companies have been reviewing their rating for these factors. The basic rate for certain areas and particular types of cars have been lowered. For instance, most insurance companies put the Austin Metro in a lower premium rate.

Companies are now harvesting the fruits of this competition and they are turning out to be bitter. General Accident, the largest motor insurer in the UK, reported underwriting losses of £11.4m on its UK motor account in the first six months of this year compared with a loss of £6.4m in the first six months of 1982—a period that included severe winter weather.

Guardian Royal Exchange Insurance, the second largest insurer, not only reported losses soaring from £7m to £12m, but also a 4 per cent fall in premium income, the first decline for more than a decade. Other insurance composites referred to rising losses though few gave actual figures. Only Royal Insurance reported an unchanged position.

These losses would appear to be the price for trying to expand or even hold market share. All companies report that the number of motor claims has risen significantly, especially in the second quarter of this year when claims were up to 10 per cent more.

No reason has been given for this increase, but it is certainly not bad weather. This reverses last year's trend when claims fell significantly after the opening winter months.

In contrast the three main life companies — Prudential, Pearl and Legal and General— have been cutting back on their motor accounts and all three reported reduced losses on lower volumes of business.

What can be expected from companies in the wake of these results? Will it mean an end to competition and a return to normal premium ratings? The chairman of Lloyd's Motor Underwriters Association recently forecast widespread premium increases ranging from 7½ per cent to 17½ per cent.

But to be effective, all companies need to end their premium freeze soon. Motorists and insurance brokers are now much more willing to shop around. The market is closely monitored.

General Accident set the lead when it lifted rates by 10½ per cent on August 1. Phoenix Assurance has made two increases this year—7 per cent on February 1 and 5 per cent on August 1. GRE did not increase its premium rates on October 1 —the anniversary of its previous increase — but the market expects a significant rise before the end of the year.

There are no signs of other majors making serious moves to end competition. The Pru has cut its premium rates in an effort to recapture market share.

In addition Mr John Howard, chief general manager of Royal, regards motor business as one of his growth areas in the UK. Royal is attacking the market by identifying various groups of better risk motorists and going after them by offering lower premium.

It started this process more than two years ago by offering drivers over 50 its Carshield 50, quoting significantly lower premiums. The plan was a tremendous success and Royal put on significant business without any underwriting deterioration. Last week Royal followed this up by offering the family motorist Carshield 30 policy, offering up to 20 per cent lower premiums.

Other companies are belatedly following Royal and offering lower premiums to older drivers. These companies can be expected to go after the better risk driver and more schemes could appear over the next year or two.

Consumer spending expected to slow down in 1984

BY DAVID CHURCHILL CONSUMER AFFAIRS CORRESPONDENT

A SLOW-DOWN in consumer spending next year is forecast today in a report from Staniland Hall business forecasters.

The report says that the increase in consumer spending in 1984 will be only half the increase of this year. The rise in spending is expected to come to a halt in the third quarter of next year, leading to a "year of virtual stagnation in 1985."

Staniland Hall says that in 1984 total personal disposable income will rise by about 8 per cent, close to the estimated level for this year. But the rate of increase will ease during the course of the year. The forecasters expect an increase in unemployment in the second half of 1984 and increased national insurance contributions.

"Thus by the year-end, personal disposable income in real terms may be less than 1 per cent above end-1983 levels."

After the rise in car sales this year, the forecasters expect sales next year to be moderate. Sales of furniture and furnishings should continue to do well as a result of the increase in housebuilding.

Consumer spending on convenience foods is also expected to be much slower in the next two years than over the past two, although the forecasters envisage a strong upturn in 1986.

Consumer spending forecasts, published quarterly by Staniland Hall Associates, 43, Colebrook Row, London N1, £255 a year.

CONTRACTS AND TENDERS

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NOTICE OF AN INTERNATIONAL CALL FOR BIDS

Announcement of an International call for bids launched by the office Militaire National pour les Industries Stratégiques (OMNIS) de la Repoblika Demokratika Malagasy for the supply and installation of prefabricated premises.

The Colonel, Director General of the Office Militaire National pour less Industries Strategiques de la Repoblika Demokratika Malagasy, makes it known that he plans to launch an international call for bids for the supply and installation, ready for immediate use, of prefabricated premises, equipped with an electric generator and air conditioning.

These premises are to be installed inside the OMNIS Building in Mangasoavina—Antananarivo — Madagascar and are to be used to store magnetic tapes and related documents.

The features of these premises are the following:
- *Height to ceiling: 2.80m*
- *Room in which magnetic tapes are to be stored: to be air conditioned and isolated thermically, dim 7.50x11m*
- *Office: dim 4.50x5.50m*
- *Room in which generator is placed, to be isolated phonically, dim 4.00x4.50m*

The air conditioning system to be installed is able to maintain the temperature in the room in which the magnetic tapes are stored, between 18°c and 20°c and the humidity at 45%.

The generator to be supplied will be used in emergencies: It is capable to supply, in case of outside power-cut, the planned air conditioning system, and possibly also an existing laboratory, the power of which is 13kw.

The bids, written in French, must be presented according to the schedule of conditions and be addressed (registered mail with acknowledgement of receipt) to the Colonel, Director General of OMNIS, 21 Lalana Razanakombana, B.P. 1 bis, 101 Antananarivo. Madagascar, before October 24, 1983, at 16.00 local time.

The documents concerning the call for bids, written in French, can be consulted at:
- *OMNIS, Direction des Services Techniques et de la Logistique, Immeuble Sonaco, Ambanidia, Antananarivo, Madagascar.*
- *PETROCONSULTANTS S. A. International Energy Services, 8-10, rue Muzy, 1211 Genava, Switzerland.*

or sent on written request, addressed to: Monsieur le Directeur des Services Techniques e de la Logistique, B.P. 1 bis, 101 Antananarivo, Madagascar, or to PETROCONSULTANTS S.A., International Energy Services, 8-10, rue Muzy, 1211 Geneva 6, Switzerland.

ANNOUNCEMENT NO. 12/83

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Offer must be submitted in Arabic or English language and local currency (in figures and words).

Detailed Terms of reference can be obtained free of charge during normal working hours from the Contracts/Tender Section on 3rd floor of main Dubai Municipality Building.

Offers must be submitted in plain envelopes closed and sealed with red wax and deposited in Tender Box No. '1' of Dubai Municipality not later than 12.00 Noon on 31st October 1983.

Any offers that are submitted after the date/time specified will be rejected.

Dubai Municipality will have the right to accept or reject any tender without stating reasons.

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Avis Rectificat

Il est porte a la connaissance des soumissionnaires potentiels que la date d'ouverture des plis da cet Avis de preselection prevue pour le 7 Octobre 1983 est reportee au 1er Novembre 1983

Toutes les autres clauses et dispositions de L'Avia de preselection restent inchangees.

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CORRIGENDUM

The OPENING DATES of the following tenders are hereby extended as under instead of 24.9.83 and 29.9.83 respectively:

Sl. No.	Tender No.	Brief Description of stores	Closing Date at 1400 hrs	Opening Date at 1500 hrs.
1.	MAT/IMP/E-11/2(270)/A/83	Digital Seismic Unit 96 channel.	5.10.83	5.10.83
2.	MAT/IMP/E-11/2(27)/B/83	Digital Seismic Unit Non-Portable 48 channel.	5.10.83	5.10.83

All other terms and conditions of advertisement will remain unchanged.

COMPANY NOTICES

THE ROYAL BANK OF CANADA
US$100,000,000
Floating Rate Debentures due 1987

In accordance with the terms and conditions of the Debentures, the interest rate for the period 7th October, 1983 to 9th April, 1984 has been fixed at 9.8875 per cent per annum.

On 9th April, 1984 interest of US$248.91 per US$5,000 nominal amount of the Debentures and interest of US$2,489.15 per US$50,000 nominal amount of the Debentures will be due for payment.

Swiss Bank Corporation International Limited
Reference Agent

THE SCOTTISH AGRICULTURAL SECURITIES CORPORATION p.l.c.
3½% DEBENTURE STOCK 1963-93
13% DEBENTURE STOCK 1997-99

NOTICE IS HEREBY GIVEN that the Registers of the Corporation's above mentioned Debenture Stocks will be Closed for Transfer and Registration from the 18th to 31st October, 1983, both days inclusive.

By Order of the Board
H. J. McTURK, Secretary

48 Palmerston Place,
Edinburgh EH12 5BR.
10th October, 1983.

OFFICIAL NOTICE

Please be advised that the following London Metal Exchange Warrants of UMK Brand Copper Cathodes have been replaced and should be considered null and void.

Warrant No. 62971—10 Bundles—234 Pieces—Weight 25.050 Kilos
Warrant No. 62974—9 Bundles—203 Pieces—Weight 25.048 Kilos
Warrant No. 63009—9 Bundles—213 Pieces—Weight 25.065 Kilos

C. STEINWEG, N.V.,
Ouland 26,
B 2030 Antwerp,
Belgium.

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Floating Rate Notes 1982/1988

The rate of interest applicable to the interest period from 7th October 1983 up to 9th April 1984 as determined by the reference agent is 10 per cent per annum, namely US$51.39 per note of US$1,000.

SEKISUI HOUSE LTD.

NOTICE TO EDR HOLDERS

This is to notify E.D.R. Holders that a cash Dividend of Yen 7.50 has been approved. Coupon interest will be paid to E.D.R. Holders on record as at 31st July 1983, upon immediate presentation of Coupon No. 6 at the offices of the Depositary:

(a) Robert Fleming & Co. Ltd.,
8, Crosby Square,
London EC3A 6AN
at the offices of the Agent:
(b) Banque Generale du Luxembourg S.A.,
14, Rue Aldringen,
1118, Luxembourg.

London,
10th October 1983

PERSONAL

IN LIVING MEMORY

Floral tributes fade. Your regard for departed friends lives on if you make a donation in their name to Help the Aged's work—towards a Day Centre for the lonely, medical treatment or research for the old, or help for the housebound. Every £ achieves a great deal for the old. Please let us know the name you wish to commemorate. Send to: The Hon. Treasurer, The Rt. Hon. Lord Maybray-King, Help the Aged, Room FT34, 32 Dover Street, London W1A 2AP.

Financial Times Conferences

WORLD BANKING IN 1984
London 6, 7 and 8 December, 1983

The Opening Address at this year's annual World Banking conference will be given by Sir Jeremy Morse, KCMG, Chairman, Lloyds Bank plc. Under the chairmanship of Mr S. M. Yassukovich, Deputy Chairman, European Banking Company Ltd and Mr Minos A. Zombanakis, Chairman, INA Universal Corporation, the conference will also feature papers by M Valery Giscard d'Estaing, Former President of France, The Hon William V. Roth, United States Senate, Governor Henry Wallich, Member of the Board of Governors, Federal Reserve System, Mr William R. Rhodes, Senior Vice-President, Citibank NA, Dr Carlos G. Langoni, Former President, Banco Central do Brasil, Mr Francis X. Stankard, Executive Vice-President, International Banking Sector, The Chase Manhattan Bank NA and The Rt Hon Lord Lever of Manchester.

BANKING AND ELECTRONIC TECHNOLOGY
London, 26 and 27 October, 1983

The French and American experience of electronic funds transfer at the point of sale, electronic corporate cash management, and self-service banking are some of the issues to be discussed at this top-level meeting.
Mr R. A. Mc Barnet, IBM United Kingdom Limited, Mr R. Barone, Diebold Inc, Mr M. Urkowitz, The Chase Manhattan Bank NA, Mr A. Richter, Verbraucherbank AG, and Mr G. J. L. Webster of the Nottingham Building Society will be among the speakers taking part.

COMPETITION, MERGERS, ACQUISITIONS, BUYOUTS AND PUBLIC POLICY
London, 20 and 21 October, 1983

This conference analyses one of the most controversial topics of the day—competition policy. It will feature papers by Mr Alexander Fletcher, Parliamentary Under-Secretary of State for Corporate and Consumer Affairs, Sir Godfray Le Quesne, Chairman, Monopolies and Mergers Commission, Mr John Chad, Chairman, SEC, and Mr Bruce Wasserstein, Managing Director, Mergers and Acquisitions Section, The First Boston Corporation, New York.

All enquiries should be addressed to:
The Financial Times Limited
Conference Organisation
Minster House, Arthur Street
London EC4R 9AX
Tel: 01-621 1355 (24-hour answering service)
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UK NEWS

Boeing's 737: front runner for BCal's order

BCal likely to choose new Boeing

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

THE BOARD of British Caledonian, the independent airline, is due to meet today to take e final decision on a £100m order for up to six new short-to-medium-range jet aircraft, to replace its ageing One-Eleven jet airliners by late 1985.

It has three choices – the new advanced version of the Boeing 737, the Series 300; a new 140-seat derivative of the McDonnell Douglas DC-9 jet, the MD-90; or the 150-seat A-320 from Airbus Industrie, the West European manufacturing consortium.

There has been much speculation that the Airbus is the front runner, hut it seems unlikely that BCal will settle for it – at least yet. This is because the A-320 has not been formally launched yet, and will not be available for service until 1988, or even later.

BCal needs its new aircraft much earlier than that. Its existing fleet of 12 One-Elevens has been in service for nearly 20 years – and is becoming increasingly expensive to maintain and fly because of steep fuel price rises.

More significantly, they will be unacceptable environmentally by late 1985, when new government noise regulations become effective in the UK, followed shortly by equally stringent rules throughout much of the rest of Western Europe.

The airline is thus in the same position as its rival, British Airways, found itself earlier this summer. BA needs to shed its extensive Trident fleet by 1985, and has opted for more Boeing 737s because they were readily available.

BA rejected the A-320 at this stage, but kept its options open for when it becomes available in the late 1980s.

BCal seems likely to follow suit and chose the Boeing 737-300.

This is because it is already under development, and will be available from late 1984. The McDonnell Douglas entry, however, will not be available until 1986, while the Airbus A-320 cannot possibly emerge before 1988.

The Boeing would appear the logical choice, therefore. BCal may decide against an outright purchase, however and opt for a short-term lease, as did BA with a view to keeping its options open for an eventual purchase of the Airbus

PEACE FORMULA REACHED IN SIX-WEEK STRIKE

Ford car output set to resume

FINANCIAL TIMES REPORTER

THE OFFICIAL six-week strike of 200 long-distance car delivery drivers employed at the Silcock and Colling depot in Liverpool is expected to be called off today, enabling the Ford Motor Company to resume car production at its nearby Halewood factory. The drivers, who deliver half the cars produced at Halewood, have been called to a mass meeting in Liverpool this morning.

Shop stewards will recommend acceptance of e 15-point formula worked out during nine hours of talks with the management and Acas, the conciliation service, at the weekend.

A Ford spokesman at Halewood said yesterday that if the recommendation was accepted, the 4,000 hourly-paid production workers laid off since Thursday of last week would be recalled from the first shift tomorrow.

Production will then re-start on the Escort and Orion assembly lines. Ford's main problem will remain the movement of the 12,500 cars worth £60m which have been stockpiled during the dispute. This is expected to take several weeks.

The strike began when the shop stewards claimed that Silcock and Colling refused to abide by normal dispute procedures over threatened redundancies. The dispute spread to involve the maintenance of long distance transporters by outside contractors, and the terms for the dispersal of the stockpile.

● The Escort, the best-selling car in Britain, is also among the least reliable models, according to the 1983 car buying guide of the UK consumer magazine, Which? Kenneth Gooding writes.

Other models listed by the guide as being "the worst" for reliability were: the Alfasud, Austin Ambassador/Princess, Austin Maxi, Citroen 2CV/Dyane, Fiat 127, Fiat Mirafiori, Fiat Strada, Ford Cortina 1600, Morris Ital/Marina, Peugeot 505, Renault 13, Renault 14, Rover, Talbot Alpine/Solara.

Cars which spent more days off the road – which might have been caused by a shortage of spare parts rather than problems with the model itself – were Audi 100, Citroen CX, Ford Granada, Jaguar, Renault 20/30 and the Triumph Dolomite 1850/Sprint.

Which? sent forms to 45,000 Consumers' Association members and 25,000 replies were received.

Losses mount for insurers in fight for motor premiums

BY ERIC SHORT

COMPETITION among insurance groups for private motor business in the UK has intensified over the past three years.

Interim results this year from the leading UK insurance groups have spelt out clearly the effect of this competition with underwriting losses on motor business soaring, even though the weather this year has been favourable to motorists.

The main reason behind this competition lies in the current economic depression. There is no overall growth in the commercial insurance market so companies have been looking to expand their share of the private insurance market in order to secure premium growth that will at least match inflation and stop expense ratios getting out of hand.

Motor business offers a higher return on capital employed than other forms of personal insurance, such as household or travel. Premiums on each policy are much higher, and the companies have use of the premiums and reserves for longer periods, and can take advantage of the high interest rates.

More UK news on Page 16

Companies are now harvesting the fruits of this competition – and they are turning out to be bitter. General Accident, the largest motor insurer in the UK, reported an underwriting loss of £11.4m on its UK motor account in the first six months of this year, compared with a loss of £8.4m the first six months of 1982 – a period that experienced very severe winter weather.

Guardian Royal Exchange insurance, the UK's second largest motor insurer, not only reported underwriting losses soaring from £7m to £12m, hut also a 4 per cent fall in premium income, the first decline for more than a decade. Other insurance composites referred to rising losses, though few gave actual figures.

These losses appear to be the price to be paid by the composites for trying to expand, or even to hold their market share. All companies report that the number of motor claims has risen significantly, especially in the second quarter of this year.

Ballot bid to end Perkins dispute

Financial Times Correspondent

THE PERKINS diesel engine company in Peterborough, is to hold a secret ballot among 1,200 machine shop workers, in a bid to settle a dispute over the introduction of new working practices.

The issue has already caused a week-long strike, and the men have defied a recommendation from the engineering workers' union, the AUEW, to accept the new arrangements. The men want an extra £4.76 a week.

The management is refusing to pay, and has now said that unless the changes are acceped, they will be enforced.

A spokesman for Perkins, the world's biggest manufacturer of diesel engines, said yesterday: "During the past month, the company has repeatedly stated that changes in working practices in the machine shop are imperative, if we are to maintain a competitive position in the diesel engine market.

"The recent agreement between the company and the trade unions, on proposals for changes of working practices, is a further recognition of that fact.

"It is clear that people's views of the proposals vary significantly throughout the machine shop, but the company's position on change has not altered. It is only fair to make sure that everyone has a chance to register their views on how they would prefer the changes to happen.

"Accordingly, the company will be arranging a ballot of everyone in the machine shop to determine which of the alternatives is preferred

"If there is no clear response to this ballot, then the company will introduce the necessary changes."

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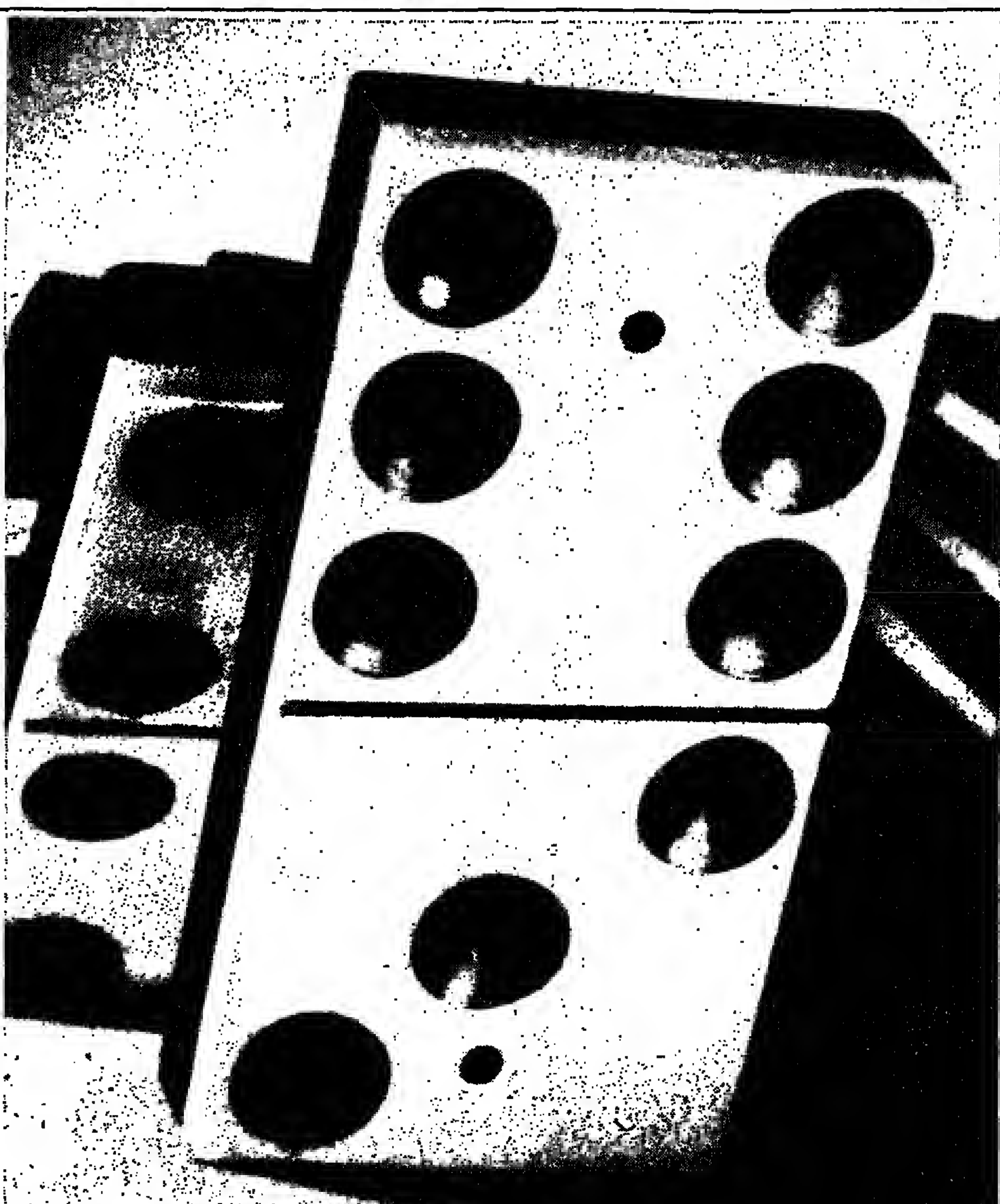

Your big risk in 1983: other people's credit failures.
Credit failure has the classic domino effect. You may not be able to see the first domino fall, but the last one could knock you flat. What can be your misfortune need not be your fault.

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40% is the average. In some companies it will be less. In others it will be more: the risk will be higher.

It is the risk insurers call 'The Great Uncovered', because its sheer size is almost unbelievable at first. But it is true enough.

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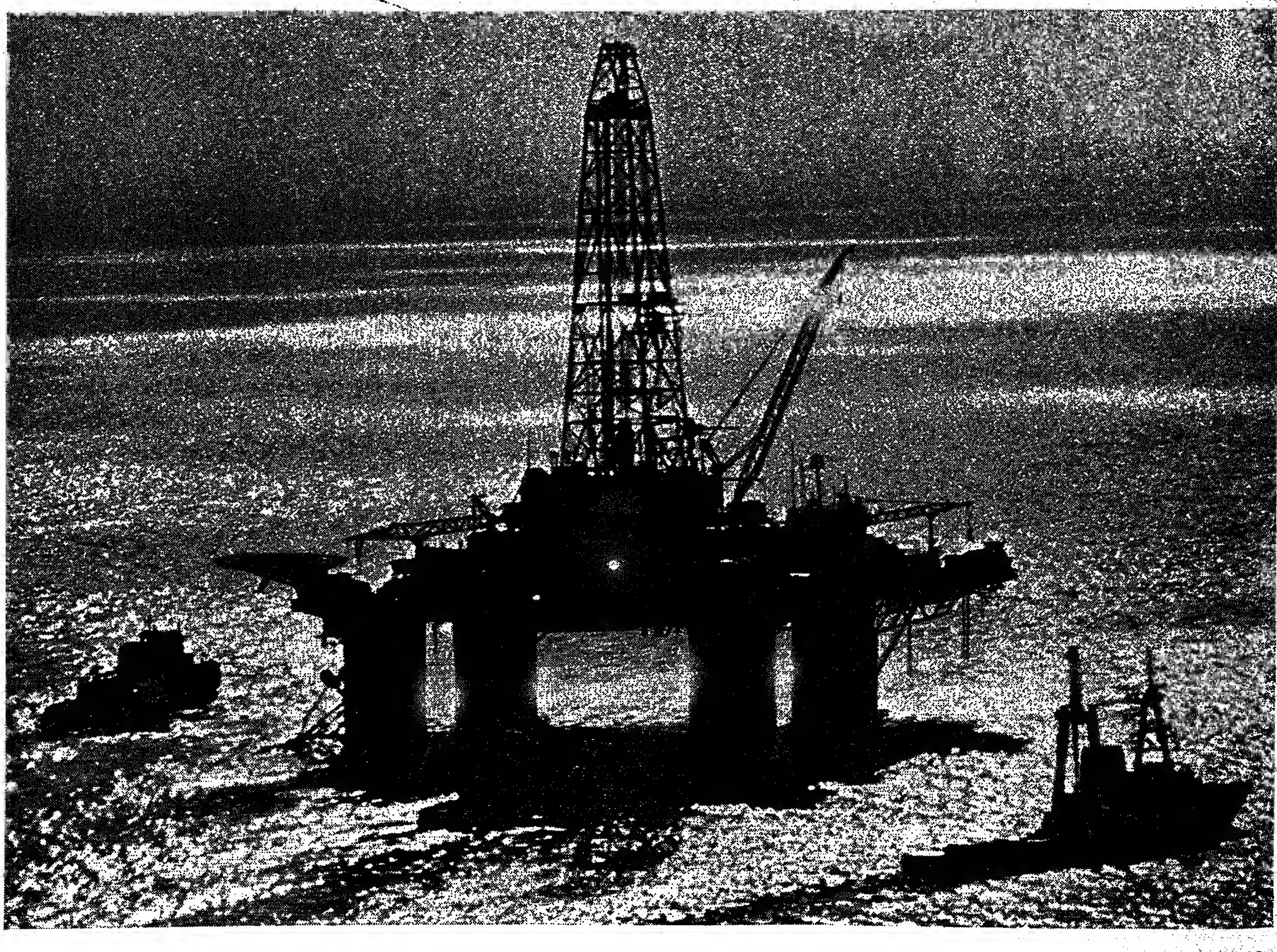

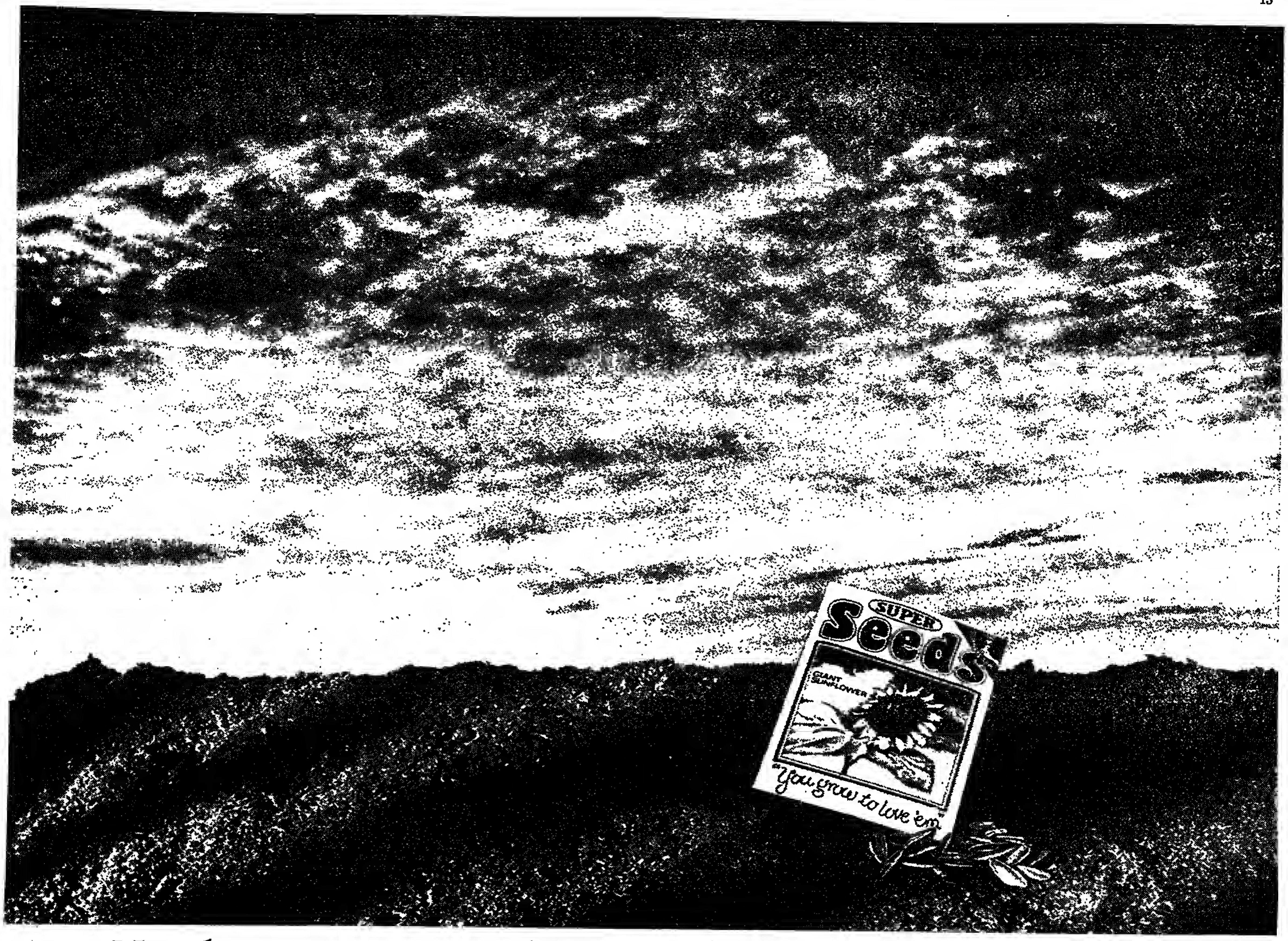

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TECHNOLOGY

EDITED BY ALAN CANE

HOW HERBICIDE RESISTANT PLANTS COULD BECOME A BILLION DOLLAR MARKET

Race for the power plants hots up

BY STEPHANIE YANCHINSKI

WHILE PHARMACEUTICAL companies struggle to bring the first exotic biotechnology drugs to market in a glare of publicity, another largely unheralded group of scientists are poised to unveil a bonanza in another direction.

A small biotechnology company on the West Coast of the United States is leading a pack of companies, which includes chemical giants such as Monsanto, Ciba Geigy, and Dupont in a race to produce berbicide resistant plants using genetic engineering. The immediate commercial goal is to extend the "life" of profitable herbicides which soon will outlive their patents.

There is, however, another vein of gold to be mined in selling the herbicide resistant seeds. As pressure mounts to rednce the chemical load on the environment, and farmers adopt biological methods of pest and weed control, agrichemical manufacturers enviously eye tha billion dollar seed market for future profits. They view biotechnology as one sure way of improving their market share.

Calgene Inc., a company of about 40 professionals backed by Allied Chemicals and Continental Grain Company, recently isolated a gene which confers resistance to glyphosate. This is the major ingredient of "Roundnp," the world's largest selling herbicide, now marketed by Monsanto.

Genes are the essential matter of life which control the activities of every living cell, and "genetic engineering" refers to the techniques by which genes are altered or even transferred from one animal or plant to another.

In this case, Calgene's scientists "zapped" bacteria, which the berbicide also normally kills, with chemicals and radiation, eventually producing a mutation resistant to glyphosate. They then isolated the mutated gene. This, they guess, slightly alters a single chemical in the cells which the herbicide normally attacks, so that the killer chemical no longer interferes with it.

But the prize schievement, which Calgene has not managed yet, is to insert this gene into valuable crops such as tobacco, soya or cotton. Then farmers could more effectively kill weeds by spraying earlier and heavier without affecting sensitive crops. Calgene claims to be within weeks or at most months of having the beginnings of such plants.

The berbicide industry is a high value-added industry, where technology is critical in determining the business outlook. The competitive positions of companies participating in this industry depend on the ability of their research and development activities to produce new, cost-effective and environmentally safe products.

Monsanto and Dow and Dupont are spending an estimated US$50m on researching new pesticides and herbicides, according to Smith Barney, Harris Upham and Company, a group of market analysts, and some foreign companies could be spending twice as much.

The potential rewards are enormous: Roundup earns around US$400m a year and with one other herbicide accounts for 13 per cent of Monsanto's corporate sales. Bnt such dependable "broad spectrum" herbicides which earn such profits by protecting a large range of crops face increasing competition from the new, high activity herbicides which farmers apply in grammes, not kilogrammes per acre. This sidesteps the potential toxicity of the others, but at tha same time lowers the earnings of the chemical manufacturers.

> "We breed crops to be tolerant to the cheapest herbicide around and to develop chemicals to be safe to the most commonly used plant varieties."

Monsanto estimates that 12,000 compounds must be screened and between US$25m and US$30m must be expended to achieve full registration of a successful product under current environmental procedures. Often, the patent position of these herbicides is easily challenged, as in the case of Roundup, and this is especially true as the herbicide industry matures, and patents begin to run out.

So it is not surprising that may agrochemical companies are turning to other chemicals, such as the new "plant growth regulators" with potential uses in controlling the time of harvest or to tha selling of seeds.

What better marketing strategy could be devised than selling kits of berbicides and resistant seeds, thus enhancing the sales of one product by the other? However, environmentalist groups, such as the Brussels-based International Coalition for Development Action, see this marketing dream turning into a nightmare. They argue that genetic diversity — the natural pool of genes—in tha major crops within the U.S. is already alarmingly small as big corporations take over plant breeding for profit. For example, six cotton varieties account for two-thirds of all the cotton acreage planted, and this pattern also applies to wheat, maize, and soyabean. Such inbred lines could be particularly vulnerabla to disease or attack from pests. Breeding plants especially resistant to certain pesticides would further diminish the genetic pool from which to select new varieties, they argue.

David Padwa, chairman of Agrigenetics Corporation, a Colorado-based genetic engineering company also interested in agriculture, scoffs at these arguments, saying that "by using genetic engineering techniques we are always creating new varieties. Those who believe in this 'conspiracy of monoculture' do not realise that by crossing the bybrid plants commercial companies keep in reserve we could create 10,000 new varieties. Breeders are testing over 60,000 new varieties of maize alone."

Nevertheless, breeding herbicida resistant plants is not a major thrust at Agrigenetics, because Padwa says such a project runs conceptually against what the company stands for. "We use genetic engineering to enhance tha plant's own natural defences. Wa love the idea of displacing chemicals by genetics." He points to the fevered interest in allelopathic chemicals as tha way companies are now headed. These are natural substances often released as gases by certain plant tissues to poison the seedlings of any competing weeds that fall nearby.

A separate problem concerns the release of these genetically engineered plants to the outside world. How will they upset the natural order of plant life? Little is known about plant biochemistry, so scientists cannot guarantee that these resistant genes will not be passed on to the weeds that glyphosate is meant to control.

Dr Ernie Jaworski, a distinguished science fellow with Monanto's genetic engineering unit in St Louis, says "Weeds develop resistance to herbicides all the time, but we will take a lot of trouble before we release these plants into the environment."

Just how far away is Calgene from achieving their goal? It has isolated the gene from bacteria resistant to glyphosate. Now they plan to get this gene past the tough outer wall of the plant cell by hooking it up to the genes of an infective microbe which normally causes tumours in certain plants but is now so modified as to render it harmless.

Then the gene must be protected from degradative chemicals on its way to the nucleus, the home of the plant's own genes, in the centre of the cell. A complicated set of chemical signals attached by genetic engineering to the glyphosate gene will ensure all this goes according to plan.

Most importantly the gene must become an integral part of the plant cell's genetic material in order to work properly and to be passed on to future generations of daughter plants. This may require yet more signals and this is only the start.

> The herbicide industry is a high value-added industry where technology is critical to determining the business outlook.

Dr Robert Goodman, Calgene's vice-president of research and development, says be confidently expects to have genetically engineered tobacco cells "in tissue culture" soon. But admits it may take years to get these single cells floating in a soup of nutrients and minerals to develop into the complete and perhaps a decade before fully approved plants appear in the seed catalogues.

This strongly supports the opinion of Dr Daniel Wagnieré senior vice-president in charge of Sandoz's seeds division and a trained agronomist, who says that the notion of developing kits of herbicides and tolerant seeds "is a bit of an illusion. We breed crops to be tolerant to the cheapest herbicide around, and develop chemicals to be safe to the most commonly used plant varieties. It is highly unlikely, given the way haphazard research usually works, that the two would be developed together."

BIOTECHNOLOGY IN FARMING

The tumours that save calves' lives

BY ALAN CANE

DR FRANKLIN PASS, president of Molecular Genetics, twinkles as be asserts: "I want to play business." He is a refreshingly different figure in a world dominated by small biotechnology companies run by high-powered academics with a different attitude to the market piece.

A physician by training—he specialised in cancers and other disorders of the skin, Dr Pass and his company have avoided the area of human ailments, where most of the excitement in biotechnology lies, to concentrate on agricultural prodncts.

The company's first major product, a preparation which can be given orally to newborn calves to treat scours, a potentially lethal diarrhoea, is already in use in Canada and will soon be introduced in the UK.

Called Genecol, the preparation is a monoclonal antibody, an example of the purest kind of a genetically engineered drug. In fact, the present success of Genecol, Molacular genetics believes it is the largest producer of monoclonal antibodies in the world.

Monoclonal antibodies are a way of turning cancer to Man's advantage. Antibodies against all sorts of invasive organisms—that causing scours, for example an extremely common bacteria called Escherichia coli, can be raised by injecting the appropriate antigen into mice.

But how to sort the antibody from the biochemical broth that results from such treatment. The answer is to fuse cells from the mice with cancer cells to form what is called a bybridoma—it grows rapidly in the right conditions as is the property of cancerous growth and it produces pure antibody at the rate of about 1,000 molecules a second.

So the cancer cells have been subverted to the useful task of manufacturing antibody. Molecular Genetics have refined this UK-invented technique to prodnce scours antibodies in substantial quantities.

In Canada, a single does—and one is all that is needed for a sick animal—costs about US$10. "The farmer is a risk-taker," Dr Pass comments, "he ignores a problem until he has it."

The cost of scours to the animal husbandry business is grievous; of the 53m calves born in the U.S. last year 16-17 per cent contacted scours and 30 per cent of those sick animals died.

There are vaccines against scours, but Dr Pass claims his company's introduction of Genecol has ushered in a new era of specific disease prevention.

He expects Genecol to do well in Europe—he is tying up a licensing agreement with a European pharmaceuticals manufacturer as yet unnamed at present—where the valua of animals is higher than in the U.S.

Molecular Genetics has some interest in the more fashionable areas of biomedical research—it is carrying out a programme of research into the various forms of human Herpes virus, for example, but the company is dedicated to agriculture.

> "The cost of scours to the animal husbandry business is grievous"

The company, now around 110 strong, specialised in the three chief techniques used by genetic engineers: recombinant DNA, monoclonal antibodies and plant tissue culture.

Started by Dr Pass in 1979 in conjunction with Dr Anthony Faras, then a microbiologist et the University of Minnesota, the chief target aree is beef and corn. There is a substantial programme of work directed at finding ways of reducing the cost of corn production and raising the quality of the product — perhaps by inducing herbicide resistance (see accompanying article).

Many bioengineering companies see themselves purely as research and development organisations with the empbasis on research—they look for bigger companies anxious to take licences on their products and market them. Molecular Genetics, however, is marketing driven with its own sales team.

Like most of its competitors it is still running at a loss—but it had substantial cash reserves and the Martin Marietta Corporation is a major shareholder.

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Instruments

Micro rules recorders

A FURTHER PROOF—if any is needed — of the value of epplying the microprocessor to self-contained instruments comes from Brown Boveri Kent, where what is believed to be the first circular chart recorder "managed" by a micro has just been launched.

Made by Kent Industrial Measurements in St Neots, the P105M somewhat changes the supply position for these recorders. Previously, things like measuring ranges, linearisation, set points and chart speeds had to be specified by the customer. Now users will specify a perfectly standard, volume-produced recorded and then program the instrument in a few seconds to exactly match the application.

This approach has completely eliminated the use of range cards and mechanical feedback slidewires since all the major functions including pen drive, life and referencing are now controlled by the micro.

Apart from the flexibility of microprocessor control, the accuracy and reliability of the new recorder are higher than in previous generations because there are fewer interconnections and moving parts. Similarly, routine maintenance needs are minimal and since the same instrument can now be used for many different applications on the same site, spares stockholdings can be reduced.

There are only five function buttons that are pressed according to a sequence on an eight digit liquid crystal display, two of which are "up" and "down" buttons for increasing or decreasing whatever value (set points, range, speed, etc) is currently on the LCD.

The recorder, which can have one, two or three pens, will deal with inputs from a wide range of transducers.

Price of the P105M is from £349 (single pen). More details on 0406 75321.

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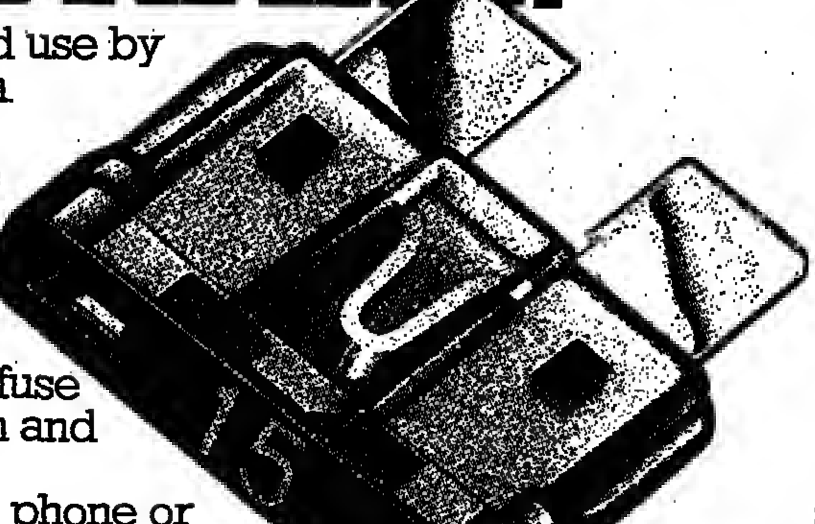

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BUILDING AND CIVIL ENGINEERING

FEES CONTROVERSY

Engineers resist competition

BRITAIN'S consulting engineers are preparing to resist renewed attempts by government departments expected this autumn to insist on price competition between partnerships over fees.

The Association of Consulting Engineers, whose 1,200 members represent the great majority of the profession, fears that the Commons' public accounts committee is set to apply further pressure on ministers.

It is also understood that the Property Services Agency, the Government's building and property arm, and the Department of Health and Social Services, will shortly require engineers to submit fee costs with design plans—a move which would breach ACE rules.

In a bid to halt such development, the engineers are preparing to put their case for a partial review of procedures to the Government. The ACE strategy parallels similar action by FIDIC, the international consulting engineers' body, which has headed off attempts by the World Bank to introduce competition on this for development aid-backed engineering projects.

U.S. engineers have also been successful in defeating legislation aimed at enforcing price competitive bids for all public sector building work.

The price competition issue first emerged in Britain in 1970 when a Monopolies Commission Report identified restrictive practices in several professions. A further 1977 study of architects' practices led to a compromise agreement in 1982 when the Royal Institute of British Architects accepted rule changes ending mandatory fee scales and substituting "recommended only" charges.

The ACE case rests on the need for engineers to be selected primarily on the basis of their suitability to perform the required task. If open competition were the norm, the ACE argues, partnerships would be tempted to speed the design process, reduce standards and use lower calibre staff.

The Association also points out that the difficulty in de\ning at the outset a project's requirements in detail, and the tendency of clients to alter their plans while work is in progress, make accurate calculation almost impossible.

The engineers therefore propose that Government departments adopt the FIDIC system whereby a short list of suitable engineers is drawn up.

Each design submission is then presented, together with the estimates, and is then either accepted or rejected by the client. If the first submission on the list is rejected, the partnership is debarred from re-submitting with revised fees and the second candidate's plans are then examined.

Supporters of open competition are likely to argue, however, that such a proposal does little to reduce costs or bring market forces to bear on the profession.

It will also be pointed out that by broadly maintaining the status quo, long-established companies will continue to dominate the major projects at the expense of lesser-known partnerships.

At present, consulting engineers' fees range from as high as 11 per cent of the cost of a project on small building schemes down to 4 per cent for large civil engineering work.

Alternatively, fees may be calculated on a formula incorporating fee scales related to the salary of the engineer employed and the time spent on the project, combined with a multiplier to account for overheads.

IVO DAWNAY

REDEVELOPMENT

Docklands artery is red brick road

THE REGENERATION of London's desolate Isle of Dogs docklands is well manifested in the Red Brick Road leading from the Gate 1 entrance at West India Dock Road to the London Enterprise Zone at its heart. The road crosses the wastes of the former Millwall and West India Docks which now are attracting developers and light industry following the progressive closure since 1967 of London Docks.

It is not Britain's first public road built of concrete block paving for some were built of this in Milton Keynes. It is, however, the first substantial public-highway and the longest industrial road in Britain to be built using this system. Hitherto these blocks were used here mainly for pedestrian areas.

They have, however, a long track-record for road use in The Netherlands, going back to the early post-Second World War period. They are also being used increasingly in Denmark, West Germany and Australia.

A Limehouse gang of five workmen lay concrete block paving at the rate of 150 sq metres in a 10-hour day. Generally, five gangs lay the blocks at rates of 30 sq metres to 50 sq metres per man per day. A gang of six with forklift support has achieved a best time of 300 sq metres in a 10-hour day.

Contract value for all surface and drainage work for the Red Brick Road is worth £6m. The first 2.5 km of the road has cost about £1m. The road's overall cost is not expected to be more than if it had been of conventional blacktop design.

The road is 4.5 km long, 7.3 metres wide from kerb to kerb, with 2.4 metre-wide footpaths either side and, except for specially made band dressed granite kerbs from Portugal, is all red. That red and its herringbone pattern were recommended to London Docklands Development Corporation by Mr Ted Hollamby, LDDC chief architect/planner.

The road's first 2.5 km were quietly opened to traffic on the target date of September 1 and officially opened on September 22 by Princess Alexandra. She named the main thoroughfare Marsh Wall. Construction of the remaining 2 km is well advanced. Other new roads will be named Mastmaker, Lighterman's, Mill Harbour, Cross Harbour and Lime Harboor.

The road is built overall of more than 3m concrete Marley Intersett blocks (measuring 100 mm x 200 mm x 80 mm) all laid by hand, to a new UK standard set by Interpave, the Cement and Coocrete Association and the County Surveyors Society. Such blocks, which come in any colour, are made by other companies including British Dredging Corporation and Marshall's Concrete. Marley was chosen because its blocks are rectangular.

The new CCA Standard was drafted in February largely on the basis of experience at the Isle of Dogs by blockwork specialists David Miller-Cook and Brian Walker of CCA. The road is designed to Department of Transport motorway specifications (Road Note 29: to take 5m standard axles) and can withstand the heaviest traffic.

An idea of the punishment such blocks take can be seen at London Bridge Southern Region railway station where buses turn on a forecourt built of the same construction but using Marshall's Monoblocks. The concrete block paving system has been used not only for performance and appearance but because it provides for high quality reinstatement when services alterations require temporary disruption. Further, in due course maintenance will fall to the local borough.

Mort Hay & Anderson is responsible for roads, infrastructure and supervision of construction. Bridgework design is by Rendell Palmer and Tritton, and drainage design by Sir William Halcrow & Partners. Main contractor is John Mowlem, an Isle of Dogs local company for 60 years, and the paving is laid by C. R. Sanderson of Cirencester.

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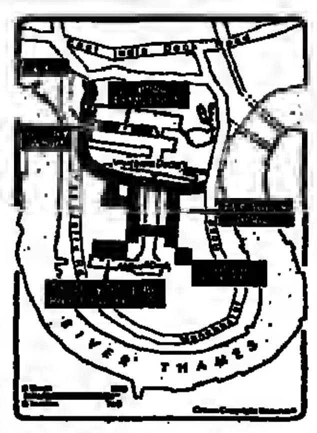

THE ISLE OF DOGS: The Red Brick Road leads from Gate 1 past Canary Wharf where this month Limehouse Productions, owned by Associated Newspapers, D. C. Thompson, Scottish Investment Trust, May Gurney Holdings and Drayton Consolidated, starts up Britain's largest independent video tape studios to the ASDA retail superstore (101,000 sq ft) which, with a second ASDA store at Beckton, was opened this month by Princess Alexandra. In the New Year work is due to start on building a printing works (285,000 sq ft) for The Daily Telegraph.

Changes planned for the 'Regs'

BRITAIN'S DESIGNERS and builders are busy going through a pile of documents sent out last week from the Department of the Environment for consultation. They are the Approved Documents which will accompany the new, streamlined Building Regulations when the whole system is agreed by Parliament and comes into operation, possibly in early 1985.

As opposed to the existing Regulations, which cover hundreds of pages, the new ones consist of a limited number of "functional Regs" which spell out fairly simply performance requirements. It is left to the Approved Documents to spell out how one might comply with these requirements—hence their importance.

The current mail shot covers the following items: preparation of site, dangerous and offensive substances, internal fire spread (surfaces and structures), external fire spread, structure (stability and disproportionate collapse)—and conservation of fuel and power.

The main difference between the Approved Documents and the previous Regs is that the documents are not statutory. This makes them easier to change and up-date with no need for lengthy Parliamentary procedure in each case.

They may also iron out a few anomalies of the old system. For example, the use of plasterboard has been virtually banned in England and Wales (Scotland and London have their separate systems) from areas where fire was considered a special risk—solely because of the paper backing on plasterboard. More expensive substitutes were insisted on by diligent Building Control Officers (firmly backed by the manufacturers of other materials) although the substitutes often ended up being covered in wallpaper anyway—with impunity. The new system, being less specific, should give plasterboard a new lease of life.

This and other examples may produce some opposition from building materials producers: more than one of them has used the old, tightly-defined Regs in the past as marketing aids; they may find this impossible in future.

Another change which may upset the structural engineers is an extension of the so-called Ronan Point clause, a regulation introduced after the fatal collapse of a high rise block in East London in 1968 following a gas explosion. The scope of the clause, originaly restricted to buildings of five storeys or more, will now cover all buildings of assembly.

The regulations do not apply to London at present—but ministers have indicated that as soon as the GLC is abolished the London regulations will also cease to exist and the new system will take over.

MIRA BAR-HILLEL

CONTRACTS

£36m for French Kier

FRENCH KIER CONSTRUCTION have been awarded contracts worth £36.5m during September. The major award was for the development of the North Terminal Building shell at Gatwick Airport (Terminal 2) for British Airports Authority with a value of £22.7m. Other contracts include sea outfalls at Clacton and Harwich for Anglian Water valued £2.4m, remodelling of existing factory building for Texas Instruments in Bedford £2.5m, and a section of road improvements on the A13 between Orsett Cock and Stanford le Hope, Essex, for Essex County Council amounting to £6m. Other clients for whom contracts have been awarded include Mobil Oil Company, Shell UK Oil, Abbey Life Assurance, PSA, Thames Water Authority and the Greater London Council.

★

Contracts totalling over £10m have recently been awarded to Cubitts London. Work has already begun on the largest, the Charing Cross development in the Strand, under a £6.7m contract for John McLean and Associates, and is scheduled for completion during the summer of 1985. Situated next to Charing Cross Station, the development will provide 41,500 sq ft of offices on seven storeys and a 7,200 sq ft arcade of shops at lower and upper ground floor levels together with basement car park. Cubitts London are also involved in the Park Western development at Western Avenue, London W3. The company has a £2.7m contract for phase-one of the development providing infrastructure and 33,000 sq ft of garage and workshop accommodation. The building is to be rented by the BBC and will be "tailor-made" to specific requirements including the provision of club premises. And at Weir Road, Wimbledon, Cubitts London are building a 50,000 sq ft warehouse and office complex for Fergabrook. The contract is worth £1.2m.

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The Government of Trinidad and Tobago has awarded a $115m contract to CHING HUNG INTERNATIONAL of South Korea for the construction of 1,074 houses in different parts of the twin island Caribbean state.

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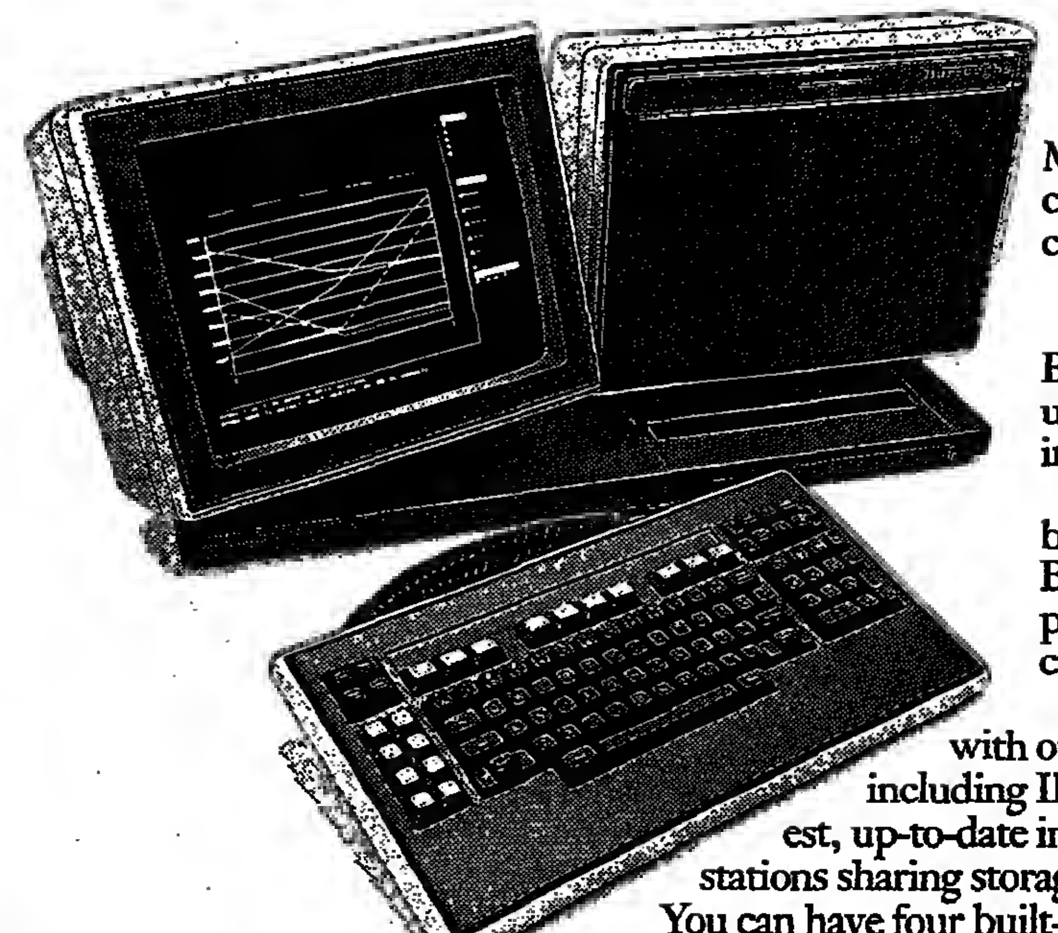

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UK NEWS

Court will rule on oil sales to Israel

BY RAYMOND HUGHES, LAW COURTS CORRESPONDENT

A UK GOVERNMENT ban on the export of North Sea nil to Israel, imposed by the Labour Government in 1979, is to be challenged in the High Court in London.

The Commercial Court is to be asked to rule thet the ban breaches EEC law, a process that is likely also to involve the European Court of Justice. The matter reached the courts as a result of the refusal of North Sea oil workers to load a cargo of crude oil on the ground that it was destined for Israel.

Oil had been sold by Sun International and Sun Oil Trading Co to Bulk Oil (Zug). The sale contract contained the words "Destination free, but always in line with exporting country's Government policy."

Bulk claimed that Sun was in breach of contract, but the claim was rejected by an arbitrator on the basis of government policy. Bulk was granted leave to appeal to the Commercial Court against that decision; Sun asked the Court of Appeal to cancel that leave.

Dismissing Sun's plea, Lord Justice Ackner said that Bulk's case was that a May, 1975, association agreement between the EEC and Israel prevented any member state imposing any new restrictions on trade with Israel.

Therefore, policy announcement by Mr Tony Benn, as Energy Secretary, in January, 1979, banning the export of oil to Israel, was void under EEC law and could not be relied upon by Sun as a reason for refusing to load Israel-bound vessels, Bulk argued.

Lord Justice Ackner said that the courts had ruled that although arbitration proceedings were to be left to the national system of law, national courts had a duty, in supervising arbitration proceedings, to ensure that EEC law was observed.

The issue was one of potentially very great importance, not only to Israel but also to any country not within the group formed by the International Energy Agency, the EEC member states and Finland, he said.

It was, therefore, important that authoritative guidance should be given, which could not happen unless Bulk was allowed to appeal to the Commercial Court.

The case also involved nearly $15m, as well as a complex question of EEC law. Those were all good reasons for allowing Bulk to take the matter to the Commercial Court, said Lord Justice Ackner.

Reprieve for rail workshop likely

By Philip Bassett, Labour Correspondent

LEADERS of the National Union of Railwaymen (NUR) seem likely today to accept new proposals from British Rail which grant a temporary reprieve from closure for the threatened wagon-making works at Shildon, County Durham.

Detailed proposals will be put today to a meeting of the NUR's governing executive committee. Though union leaders are likely to remain unhappy that the proposals do not deviate from BR's firm intention to close the Shildon works, they are likely to grasp at a chance of a reprieve, however short.

If accepted by the union, the reprieve would be the second granted to the Shildon works since its closure was first announced in the spring of last year. Faced with the threat of industrial action by the NUR, closure was deferred in June last year.

The basis of the proposals to be considered today by NUR leaders

- A six-month reprieve from closure. After its deferment last year, BR intended to shut Shildon by the end of this year.
- A much less harsh run-down of jobs. Originally, the closure would have meant the loss of 2,600 jobs, but many have already left. The present workforce of about 1400 would be reduced to some 940 at the beginning of next year, and to about 870 by the middle of the year.
- A guarantee that if any new wagon-building orders are won, the work will go to Shildon, rather than any other of British Rail Engineering (Brel) plants.

Large retailer halts sale of Nimslo camera

BY DAVID DODWELL

THE UK distributors of Nimslo International's controversial camera, which takes three-dimensional prints, have called on restive dealers "to hold on, not to panic, and to see how the Christmas selling season goes."

The call coincides with a decision by Boots, one of the UK'e largest suppbers of photographic equipment, to take the cameras off its shelves after a four-month trial period in which only about 130 of the 500 cameras ordered have been sold.

It also comes ahead of a "make-or-break" promotional campaign, estimated to cost about £600,000, intended to capture public interest in the camera developed jointly by Dr Jerry Nims and Mr Allen Lo, and launched in the U.S. in 1980.

Mr Jnhn Singer, chairman of Photopia, the company which has exclusive distribution rights for tha Nimslo camera in the UK, confirmed yesterday that Boots had written to the company saying it planned to return cameras not already sold.

"Why they have decided not to hold on until Christmas, I haven't a clue," he said. "Perhaps they decided they had not seen the return from their investment thet they wanted, and that shelf space was limited over the critical Christmas selling period."

Mr Singer conceded that many dealers were annoyed that they had had to hold on to stock for three to four months "with inadequate back-up" on promotion

He nevertheless claimed that major retailers such as Dixons, Menzies and Comet had been "co-operative and supportive" of efforts by Photopia and Nimslo to get the camera off the ground in the UK.

A limited promotional campaign early in summer is now admitted to have been a failure – in large part because Nimslo itself was reluctant to commit funds to an advertising campaign.

Mr Singer made it clear yesterday that for many dealers, both major and minor, the Christmas selling season will be n "make-or-break" period.

The Bermuda-based company, which was launched on London's Unlisted Securities Market in December 1981, has been blighted by controversy in its 20-month life. Nimslo shares have fallen from a peak of 285p in 1982 to a closing price on Friday last week of 38p.

Its most critical problems arose at tha Timex plant in Dundee, where an order for 260,000 cameras was eventually cancelled amid recriminations and after long delays, with just 30,000 cameras off the production line.

Sales in the U.S. were seriously hindered by this delay, as were plans to launch the product internationally.

Production is now *said to be* going smoothly at plants in Japan, and the company has established distribution networks across Europe and in Asia.

But tha company's balance sheet makes gloomy reading. Attributable losses in the first six montha of 1983 amounted to $11.8m compared with losses of $9.49m in the first half of 1982.

Britain's industrial waste land increases

By Nick Garnett, Northern Correspondent

MOST OF England's manufacturing conurbations are becoming increasingly disfigured. Despite reclamation schemes and revamping of government policy ostensibly geared to improving local authorities' ability to rescue derelict areas, the land acreage needing "treatment" before it can be re-used is rising.

Greater Manchester's derelict land now totals 15 sq miles, equivalent to the urban area of a town the size of Bolton. That in Tyne and Wear is about a third of that, but still the same acreage as South Shields.

The scale of a problem which the metropolitan counties say is a deterrent to inward investment and a cause of social stress is only just emerging.

The counties have been supplying the Department of the Environment this year with n breakdown of their derelict land problem for a government report to be published next year. The last time n similar survey was carried out was in 1974.

The speed at which recent industrial decline has bred a new crop of defaced areas is reflected in the West Midlands where derelict land acreage has risen in the past nine years by 26 per cent to 4,800 acres, despite the reclamation of 2,400 acres. This is n more pronounced jump than in almost any other region.

Greater Manchester has had by far the biggest acreage of mutilated land for decades. Some 8,000 acres were judged in 1974 to need reclaiming in the county.

Since then the metropolitan county council has reclaimed 4,000 acres

Coal Board in secret survey

BY MAURICE SAMUELSON

BRITAIN's National Coal Board (NCB), which supplies coal to Israel, is indirectly involved as weli in helping it to find its own oil resources.

The NCB, together with English China Clays, is the joint major shareholder in Horizon Exploration, which has just completed a clandestine survey of Eastern Mediterranean waters for the Israel National Oil Corporation.

Based at Swanley, Kent, the company is now processing the soundings taken by one of its survey ships. Initial details were presented in London two weeks ago to representatives of a dozen companies, including several major groups.

Mr Jnhn Greener, managing director, says thet, although the area is "not the hottest prospect," it is "structurally very interesting."

Since handing back the Sinai Peninsula to Egypt, Israel has depended almost entirely on imported oil. Until this year, there had been only limited offshore work along her Mediterranean coast, and very little in deep water. The next phase will he for the Israeli Government to use Horizon survey data to allocate acreage for licensing, and for oil companies to apply for drilling rights – possibly next year.

In a bid to avoid political complications in Arab countries where Horizon has operated, its presence in Israel was initially kept secret. It carried out its $3m survey contract under the name of one of its lesser known subsidiaries. Publicly it confirmed only that it was working in the Eastern Mediterranean, without naming Israel.

One of the world's top 15 geophysical companies, Horizon is active in many countries, including Italy, Indonesia, Australia, the U.S., Brazil, and Argentina.

In Israel, Horizon's cover was almost "blown" when aerial pictures of its survey ship appeared on television, which said it was a Soviet spy vessel listening to Israeli signals traffic.

Phones dispute set to spread

BY PHILIP BASSETT, LABOUR CORRESPONDENT

BRITISH TELECOM's international telephone services could be further hit by the effects of telephone engineering workers' industrial action from today.

BT acknowledged yesterday that the work-to-rule by more than 1,000 maintenance engineers in London as part of the Post Office Engineering Union's (POEU) campaign against the government's plans to sell off BT had already had a much more rapid effect than had been expected.

Action by management staff yesterday reduced the impact on services of the work-to-rule, although BT agreed that the much lighter traffic flows had played a considerable part. BT officials declined to estimate the likely effect on services once business demand started up again today.

Most seriously affected so far have been calls to Africa, the Middle East and the Far East. Services to Europe and North America have been affected, but only slightly.

However, union estimates put the disruption as much greater. They see about half the countries connected by international direct dialling crucial to the City of London's role as a major international finance centre – as already having either been disrupted, or halted entirely during peak hours.

BT heightened the dispute at the weekend by ordering home skeleton night shifts at the three key international exchanges in the London area.

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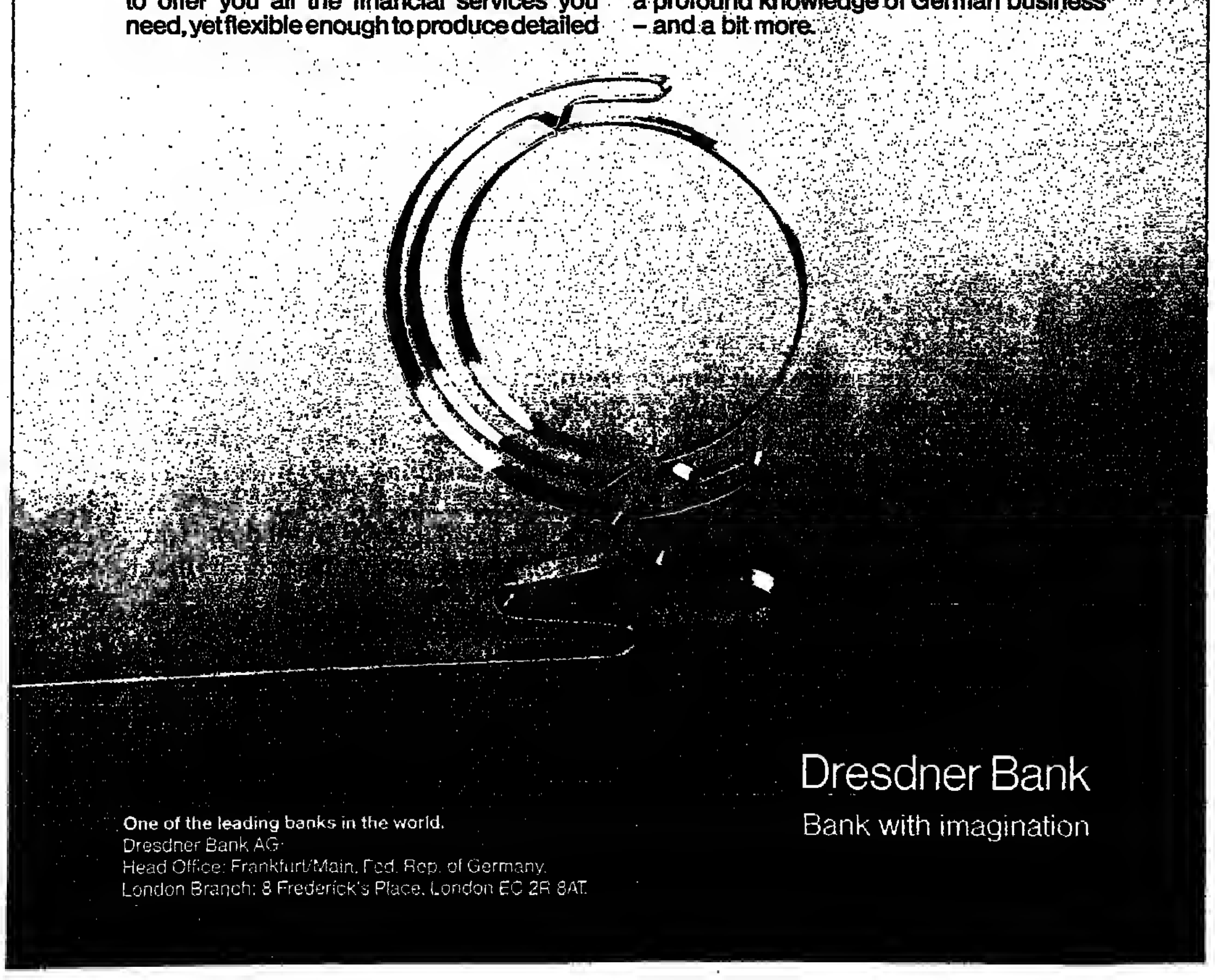

LAW

Fugitive offenders and a legal conundrum

CIVILISED NATIONS always face the problem of ensuring adequate protection for genuine political refugees, while preventing ordinary criminals exploiting that protection, by escaping surrender for their politically-motivated crimes.

The existence of that conundrum goes a long way to explaining, and reducing the degree of public astonishment on the UK side of the Atlantic at the refusal of the U.S. Federal Court in San Francisco last week to order the return to Britain of Mr William Quinn, an IRA activist, on a charge of murdering a policeman in a London street while escaping capture for terrorist offences.

The principle that political offenders should not be extradited is n familiar component of all extradition treaties, including the Anglo-U.S. treaty of 1972. The idea that political offences should be exempt from extradition is of fairly recent origin. It was not until towards the end of the 18th century and the beginning of the 19th century that, while countries continued to surrender political offenders, public attitudes nevertheless began to deplore the surrender of those seeking refuge from political oppression.

By the time that parliament got round to legislating for extradition in 1870 – previously there had been a handful of bilateral treaties between England and mainly European countries – many people regarded insurgents against continental governments as heroes intolerably provoked by tyrants, even though in the course of their political struggles they took human lives and destroyed property.

The enthusiastic sympathy among Englishmen for the cause of throwing off the yoke of foreign powers was readily translated into claims for political asylum.

When parliament did finally legislate for the surrender of fugitive criminals to and from the UK, it expressly exempted political crimes from the scheme of extradition. Offences such as espionage and treason were notably omitted from the list of extraditable crimes. The 1870 Act went on to provide, however, thet a fugitive criminal should not be surrendered if the offence in respect of which surrender was demanded was "one of a political character."

It was left to the courts, however, to say what offences other than political crimes, such as treason, were covered by the vacuous phrase.

Some helpful guidance was ultimately given by the House of Lords in 1962, when a middle position was indicated between the principle of asylum for political refugees and indiscriminate protection to persons who chose to represent that ordinary criminal offences, such as murder and robbery, had a political purpose so as to bring the offenders within the exemption.

Lord Reid said thet not every person who commited an offence in the course of a political struggle was entitled to protection, but that in testing the matter the offender's motive and purpose in committing the offence was relevant, and might even be decisive.

More specifically, the protection was not limited to attempts to overthrow the government. The use of force to compel a government to change its advisers or to change its policy might be just as political in character as the use of force to achieve revolution. The motive and purpose of the fugitive, the motive of the requesting state and the likely consequences if the fugitive were surrendered were all relevant factors.

If the offence was in some way connected with the political control or government of n country, thet ordinarily would suffice to infuse the offence with a "political character." When Mr Quinn shot the London policeman he was acting in furthering, however remotely, a struggle by civil disturbance to unite the two parts of Ireland.

The question for an English court would be one of remoteness: Was the shooting of n police officer in London, geographically but not politically remote from the scene of the political struggle by the IRA, sufficiently proximate to political actions to warrant a claim to exemption from surrender? The fact that Mr Quinn, if returned to England, would be tried for murder like any other person charged with that offence, and would be dealt with, not as n political prisoner but as an ordinary criminal, would lead an English court to conclude that it was an offence of a political character.

European countries have, however, generally widened the political safeguard beyond testing the matter in terms of the character of the offence itself. The European Convention on Extradition, to which the UK government has not adhered, incorporates a more sophisticated safeguard for the fugitive than does English law by extending the exemption to an "offence *connected with* a political offence."

Under such an extended definition Mr Quinn would probably succeed in escaping justice. Indeed, the courts in the Republic of Ireland, whose law conforms to the widened definition, have actually declined to hand over fugitive offenders in cases not dissimilar to that of Mr Quinn.

The British Government failed some years ago to have returned from Ireland a fugitive who had assisted the spy, George Blake, who was serving a sentence of 42 years' imprisonment, to escape from prison in London. Another avenue of circumventing the application of tha political offence exemption has been sought in the case of terrorists. Had the U.S. enacted an exception for terrorists, no doubt Mr Quinn would now be winging his way back to an English prison and trial for murder.

That the political safeguard should not extend to serious crimes of violence is not a novel proposition. The Royal Commission on Extradition in 1878 recommended that exceptions should be made in respect of crimes such as assassination, incendiarism or murder of a policeman committed in the furtherance of some political purpose or pretended political purpose, unless the offence occurred during a civil war or open insurrection, but that there should be a discretion to withhold surrendering the fugitive even where the criteria were not met.

The recommendation was never accepted. Until very recently the only offences which this country had not considered to be political for the purposes of extradition were offences of genocide.

For 10 years now the countries of Western Europe have actively sought to carve out of the political offence terrorist crimes. The European Convention on the Supression of Terrorism of 1975 was eventually concluded and our law, the Supression of Terrorism Act 1978, has allowed this country to ratify the Convention. The broad purpose of the Convention is to ensure that perpetrators of terrorist offences should not escape the clutches of justice by the offender crossing national frontiers.

A list of offences involving violence – *hijacking, serious attacks on* internationally protected persons, kidnapping, taking of hostages and some explosive and firearms offences are not to be treated as offences of a political character. Ratification of the Convention in no way derogates from the right of any government to grant political asylum in a suitable case.

An agreement concerning the Convention among the member states of the EEC also exists, whereby the provisions of the Convention will operate. Among the member-states, the Republic of Ireland alone has not signed the European Convention on the Supression of Terrorism. The inter-departmental working party on extradition in May 1982 added, however, that it did not seek to have the Convention extended beyond the members of the Council of Europe.

While it has confidence in the judicial and political systems of Britain's partners in the Council of Europe, it did not necessarily possess the same confidence in the legal and governmental systems of other countrias with whom such ties were more tenuous.

The working party thought while relaxation of the political safeguards under the Supression of Terrorism Act were justifiable, any move to abolish or relax the safeguard in the extradition laws as a whole would be highly undesirable.

Justinian

THE ARTS

Architecture

Colin Amery

The Smythson heritage

The ruined terrace range of Bolsover Castle Derbyshire begun in 1627

Longleat, Wollaton, Bolsover, Hardwick, Burton Agnes — the names run like a litany, all of them glorious, ingenious English country houses. They are all connected with the name of Smythson, a dynasty of designers and builders of great houses in the reigns of Elizabeth I and the early Stuarts. Robert Smythson is by far the most important of these, born around 1535 he died in 1614. His son John (died 1634) and his grandson Huntingdon who died in 1648 were both masons and "architecters."

Our knowledge of these men and of Robert Smythson in particular comes in the main from the pioneering researches of Mark Girouard. It was in 1966 that he published his first book of architectural history developing his doctoral thesis into an illustrated discourse on Robert Smythson and his architecture. That book has been out of print for far too long and it is a pleasure to welcome a completely new version of the Smythson story.

Now called *Robert Smythson and the English Country House* (by Mark Girouard, Yale University Press, £15.95), the great saga of the building of these prodigy houses has been retold in the context of a completely redesigned book. Book designers seldom receive any credit and Mark Girouard is fortunate indeed to be married to the talented artist and book designer Dorothy Girouard. It is an ideal collaboration. They have, with their publishers, broken many of the old conventions of the illustrated architectural book and created a series of titles that are as distinguished for their looks as for their words.

This one, even at first glance, reveals the richness of a strange, even exotic period of English architecture. Particularly evocative are the colour photographs of Edward Piper, and some of the older pictures by the master of country house photography, the late Edwin Smith.

The architecture of the Elizabethan and Jacobean world has not been fashionable with architectural historians for some time, partly because of the sheer difficulty of finding the facts and partly because of the preference of historians for the more stylistically classifiable periods. Girouard writes with ease and enthusiasm and his great gift as a historian enables him to bring to life the complexities of the world of Elizabethan and Jacobean building.

He explains that this was a time when the fountainhead of architecture was the Royal Works and the aristocracy imitated this system whenever they began to build on any scale. The idea of one architect engaged solely in architectural practice is a relatively modern one. Robert Smythson was one of the first independent artificers who took on the drawing of plans and designs, his drawings have survived and they form a crucial part of the raw material of this book.

By dint of hard labour looking at contemporary documents, accounts and letters and the inspection of the drawings it has been possible to establish beyond any doubt that Robert Smythson was one of the earliest country house architects. He sunk into obscurity partly because of the Elizabethan attitude to their buildings—the "architect" was rather like the tailor—not someone you asked to dinner, and because of a lack of theoretical interest in the nature of the buildings.

The Derbyshire valley where Bolsover stands evokes the forgotten worlds of knightly romance and the six towers of Hardwick are potent with the spirit of Elizabethan adventure. The detail story of Bess of Hardwick's house is totally fascinating. Girouard is right to raise the question of the present appearance of the house which is now owned by the National Trust. The refacing of the stonework has killed so much of the feeling of aged splendour of those façades—how could the body entrusted with this house have been so deeply insensitive?

This is a brilliant and beautiful work that achieves what only the best books achieve — it makes you want to see the houses for yourself.

The Oresteia/Television

Michael Coveney

The filming for television of notable theatrical productions remains a tricky subject. The élitist objection is that you cannot recreate the circumstances of audience participation in the sitting-room. The populists reply that thousands of people have a chance to enjoy something they would not otherwise see.

But *The Oresteia* (C4, last night), of all plays, was written for a specific audience who travelled far to see it. Like all Greek tragedy it offered an experience that was, as Peter Hall said in Saturday night's documentary *The Oresteia at Epidaurus* (C4), like a combination of going to church and watching the World Cup. Even today (some might say especially today) going to the theatre requires nerve and the expenditure of physical effort. Hall's production of *The Oresteia* at the National Theatre in November 1981 was a great occasion. On the small screen it is not.

Despite being shot from many angles—there were finally 48 hours of tape which took six months to edit—the purity of Jocelyn Herbert's stage design and masks was never as effective as in the theatre. The company of 16 male actors did not — with the exception of Philip Donaghy's hip-swaying Clytemnestra and Greg Hicks's beautifully spoken Orestes—achieve the strange, paradoxical individuality I remember noting before.

And Tony Harrison's ostentatiously muscular and alliterative translation, borne along as much by the rhythmically bouncing delivery of the actors as by the inventively percussive score of Harrison Birtwistle, did not take kindly to the intimacy of TV. How did you find "Fart fires through your flues till he flops like a fruit-rind" or "Such gaudy displays goad gods into god-grudge"? I have to confess I giggled rather a lot.

As with Shakespeare, the main challenge of Greek tragedy, from a technical point of view, is the rhetoric. Harrison's verse is a tremendous attempt to redefine the rhetorical qualities of Aeschylus, but it needs the air and the aura of a large performing space.

Andrew Snell's documentary allowed Peter Hall to defend his use of masks by saying that, somehow, a way had to be found to contain and describe the emotional hysteria of the plays. I have never been convinced by this argument, and in fact saw it totally defeated in Peter Stein's emotionally unbridled production of 1980.

Otherwise, Snell's film was the usual arts programme mix of puff and travelogue. One of the actors, Barrie Rutter, surveying the intimidating amphitheatre of Epidaurus was "a bit gob-smacked." Merlina Mercouri was seen blowing kisses to the audience as dusk gathered. The best bits involved the actors Tony Robinson and Greg Hicks describing their relationships with their masks, and Tony Harrison rather painstakingly explaining how he wanted to make a translation to match the masonry of Agamemnon's tomb at Mycenae.

Just as the BBC 2 transmission two weeks ago of Trevor Nunn's Glyndebourne production of *Idomeneo* reduced and distorted the stunning, gorgeous impact of the show on the stage, so the televised *Oresteia* proves yet again that the medium must find its own ways of producing great theatre works.

Orfeo/Coliseum

David Murray

The English National Opera *Orfeo*—Monteverdi, not Gluck—is a joy pure and simple. Pure, to the extent that something like the original sound of the opera can be reconstructed some four centuries later (the orchestra of period-style instruments plays in tune and makes a wonderfully convincing effect). Simple, because the producer David Freeman has decided that the original courtly setting and manners are not worth reproducing: one needn't claim that, say, Glyndebourne's pretty Renaissance fantasies are a waste of time in order to make a case for Freeman's earthily direct telling of the story. It makes its own ease: your own ears and eyes can judge.

The action is set in "a contemporary Greek village," more or less; the tale of Orpheus and Eurydice is being acted out like a pre-Christian passion-play. There are no sets but hanging embroidered cloths, though the story is cunningly lit by Stephen Watson in metropolitan style. The "villagers" step forward to make a chorus as required—very much individuals, not a well-drilled battalion—and they sing notably well: fervent, well balanced, clean-lined. Various principal roles are doubled (Richard Angas contrives theatrically contrasted bass qualities for his Charon and his Pluto). The pace is surprisingly swift, though in Peter Robinson's hands the score moves with an easy stride.

As Orfeo, Laurence Dale sustains his long plaints with fresh, virile, unflagging tone and full dramatic conviction. We shall hear much more of this excellent tenor, though the advantage of vulnerable youth in this role must be something which blossoms only for two or three seasons. Besides, Angas, his partners, are a strong, characterful crew: Jennifer Smith delivers the prologue of "Music" arrestingly, Marie Angel is both Eurydice and Hope, and Rosanne Creffield—whose Fauré recitals on Radio 3 have given me great pleasure—lends her fascinating mezzo to the Messenger and Proserpina (a most intelligent singer, this).

Lovers of Monteverdi music-drama, as distinct from the period trappings, will rejoice in these performances. The direct, un-fussy power of the presentation is a salutary lesson. Much is plainly owed to Freeman's insistence on physical contact between the singers, which wards off the fatal risk of letting the opera become a procession of cultivated solo exhibitions. A certain amount of over-familiar "experimental" writhing and scrabbling is a trivial price to pay for that, and in any case it is kept well within the limits of plausible acting-out. Freeman is clearly a force for good, in a medium all too subject to decorators and titivators.

New Swedish singers/Wigmore Hall

David Murray

All this season there is a "Sounds of Sweden" series continuing, much of it at the Wigmore. It is a calculated invasion, and alarmingly impressive. On Saturday afternoon Kerstin Meyer introduced four new singers—the eldest a 28-year-old tenor, the youngest a high baritone of 20. If those four are merely representative of what the Swedes have at home, then Swedish musical nurture is something that other countries with musical pretensions had better learn about quickly.

I have too little space in which to discuss artists whose natural gifts and sophisticated training deserve much more. Summarily, then:— Stefan Dahlberg boasts a narrow-gange, bright-edged tenor of elegant style, a born Pedrillo or Almaviva (Rossini's, of course, not Mozart's). His pitch is impeccable, his phrasing cleanly etched, his stage-manner all eager youth (professionally polished). Like his colleagues he proved a fine exponent of Scandinavian music, especially Emil Sjögren's "Tannhäuser" cycle; the time may come when the assumption that the best late-Romantic songs are all Austro-German will look sadly provincial.

Marianne Eklöf is a tall, striking blonde whose ample mezzo-soprano is rich in personality. Her control of this greatly promising instrument is so far only just dependable, but sufficient to suggest a substantial artist: warm, intelligent and freshly perceptive. Lena Hoel, a soprano in the mould of Ileana Cotrubas, is a plucky little person with penetrating top notes (and excellent English for the Anne of Stravinsky's *Rake's Progress*). In unaccompanied ballads by Carl Jonas Love Almqvist, her theatrical musicianship was triumphant. Already she would be an ornament for any small company.

And then there was Krister St Hill, the under-age baritone. Extraordinary performer: a dancer who made his name in *A Chorus Line* at 16, and proceeded through *West Side Story* and *Godspell* to Escamillo and Massenet's Sancho Panza. Café-au-lait coloured, face like a Polynesian idol in repose, violently expressive in action. Voice powerful and controlled (with a Broadway rasp when needed, and excellent American)—the baleful force of Ture Rangström's songs for the mad King Erik fairly rebounded off the back wall of the Wigmore. He might do almost anything next, even a *Rheingold* Wotan.

A Passion in Six Days/Sheffield Crucible

Michael Coveney

Howard Barker's new play for the Sheffield Crucible opens with a Labour MP, Harry Gaukroger, taking a dip in the Brighton sea on the eve of the party conference. Calling for help offstage, he is rescued by a sleek, nude Welsh wizard called Brian Glint. Glint is the coming man, Gaukroger the stolid stalwart. The play opened on Friday night as this year's conference came to a close.

For three and a half hours Mr Barker offers a mixture of prescience flavoured with hindsight and seems to despair of the new Kinnock era even as it is launched. Glint, ruthless and silk-shirted, is already "a traitor to the Left." The Left, at the same time, is portrayed as a bunch of sneering skinheads and, in the marriage of John and Annie, a simple-minded faction demanding personal liberty in the context of "socialist love." More convincingly, an ancient pacifist, Lord Isted, makes a tremendous disarmament speech from the platform. Sebastian Shaw, watery-eyed and eloquently doddery, is as moving as Fenner Brockway on top form.

The evocatively named party leader, Raymond Toynbee, is projected by Christopher Wilkinson as a cunning amalgam of Michael Foot and Peter Shore. Another actor looks like Eric Heffer but says surprisingly little. Another looks like Gerald Kaufman but is, in fact, a pale carbon of Sir Robin Day. So it goes, with Glint's sex appeal, Toynbee's demise, and rows about selection procedures and registration, all outlined in hotel bedrooms that are trucked in under the conference platform and its grey banner of "Peace. Freedom. Jobs."

Michael Boyd's production is unconscionably slow, chiefly because of what is in fact a good idea: the use of a musical critical commentary by Mr Sprat's 21st Century Popular Motets, an a capella quintet not quite in the Flying Pickets class. The lyrics, alas, are decidedly duff, reflecting the worst of Mr Barker's heavy-handedly jejune sub-Brentonesque writing manner. The audience played its part in creating an authentic party conference effect by seeping out of the theatre during and even before the interval. Shocked, stunned, bored? The first act certainly drones on, but I think that ordinary people, even those not familiar with Mr Barker's juvenile scatology, can discriminate between good bad language and bad bad language.

The piece is well cast, however, especially in the figure of Harold Innocent's Gaukroger, a fat, pink and gleaming old rogue who salivates on his landlady's bosom, derides the militants for their impracticable power base and, rolling around the stage like a beached whale, celebrates the corrupt fervour of the Wilson era. Gaukroger, 40 years a Member, is to be challenged by an active selection committee, but he intends to hitch his wagon to Glint. What *use* he would be to Glint is never explored. But then neither is young John's (Peter Wight) theory that socialism must be "moist and passionate, wet and naked." Just as well, perhaps.

Toynbee is painted as a vacillating weakling who won't speak to the disarmament motion and falls, in the end, because of an inability to lie. Glint (forcefully played by David Hargreaves) is pursued and bedded by Sian Thomas's Annie. The implication that Mr Kinnock either carries on like this or was already plotting for the leadership at last year's conference is surely delicate ground.

Some of my Best Friends are Husbands/Palace, Watford

Martin Hoyle

The strains of Offenbach before curtain-rise are misleading Saul Radomsky's effortlessly elegant sets, late Art Nouveau merging into early Erté, have left the Second Empire 40 years behind. As it turns out, the designs provide most of the style in this version of a Labiche farce that adds British love of ridiculed gravity to clockwork Gallic plotting, and lards the whole thing over in Hugh Leonard's adaptation, less free than libertarian, with dionysiac Irish geniality.

The resultant lumpy texture is clotted with all too single *entendres* and old jokes (at least one sanctified by Sir Thomas Beecham); while it's not merely the presence of Hugh Paddick that recalls the amiable campery of radio's *Round the Horne*. Sadly, a stylish cast is assembled with very little to do requiring style.

As the ageing philanderer trying to bury his past before marrying a well-brought-up 18-year-old, Tony Britton again reveals that precious comic gift: the ability to retain (to the character's evident satisfaction, at least) the fig-leaf of dignity while exposed as ludicrous by a monstrous fate.

Complications stem from the sudden appearance on his wedding day of the husbands of two of the lady-killer's discarded mistresses.

Rosemary Leach, in a froth of 1910 pink plumes, is a mother-in-law definitely still "in bloom." In a willing cast Karen Lewis's maid, played with lightness and point, avoids both oo-la-la and oh-my-Gawd; Martin Connor's rigidly ridiculous toy soldier gives a glimpse of real Labiche. Mr Paddick's way with the unconscious cuckold's nostalgia, recollecting his best friend's gift of liqueur to his wife—"He used to pour it over her pineapples personally"—almost redeems the detectable desperation that eventually sets in.

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Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

October 7–13

Music

LONDON

NDR Symphony Orchestra, Hamburg, conductor Günter Wand: Haydn, Brückner. Royal Festival Hall (Sun) (928 3641).

English Chamber Orchestra, conductor Charles Mackerras, with Gidon Kremer, violin, and Kim Kashkashian, viola: Rossini, Mozart, Beethoven, and a first performance of Robin Holloway's Second Idyll. Royal Festival Hall (Mon) (928 3641).

Brandis Quartet of Berlin with Steven Isserlis, cello: Beethoven, Wolf, Schubert. Elizabeth Hall (Mon) (928 3641).

London Philharmonic Orchestra, conductor James Conlon, Horacio Gutiérrez, piano: Brahms Piano Concerto No 2, Dvorak New York Symphony. Royal Festival Hall (Tue) (928 3641).

London Sinfonietta, conductor David Atherton, Paul Crossley, piano: Messiaen's From the Canyons to the Stars. Elizabeth Hall (Tue) (928 3641).

Gershwin Evening with the London Symphony Orchestra and Brian Stanborough, conductor/piano. Barbican Hall (Tue) (638 8891).

London Mozart Players, conductor Harry Blech with Robert Cohen, cello, and Stephen Bishop-Kovacevich, piano: Mozart, Haydn Cello Concerto and Beethoven Piano concerto No. 3. Royal Festival Hall (Wed) (928 3641).

Michele Campanella piano recital: Scarlatti, Liszt. Elizabeth Hall (Wed) (928 3641).

Royal Philharmonic Orchestra, conductor Charles Groves, Yuzuko Horigome, violin: all Beethoven programme. Barbican Hall (Wed) (638 8891).

Bournemouth Symphony Orchestra, conductor Rudolf Barshai, Cecile Ousset, piano: Mussorgsky, Prokofiev. Barbican Hall (Thur) (638 8891).

London Philharmonic Orchestra, conductor Christoph Eschenbach, Elisabeth Leonskaja, piano: Rossini, Mendelssohn Piano Concerto No 1, Stravinsky. Royal Festival Hall (Thur) (928 3641).

London Chamber Orchestra, conductor Andre Bernard, Christopher Warren-Green, violin: Handel, Mozart, Bach, Vivaldi, Tchaikovsky. Elizabeth Hall (Thur) (928 3641).

PARIS

Boris Christoff (Mon) Théâtre de l'Athénée (742 6727).

Orchestre Colonne conducted by Dennis Russel Davies, Keith Jarratt, piano: Boulez, Barber, Brahms (Mon) Salle Pleyel (563 8873).

Nouvel Orchestre Philharmonique de Radio France conducted by Juan Pablo Izquierdo and Radio France choir: Maurice Kagel "Die Erschöpfung Der Welt" (Tue) Maison de Radio, Grand Auditorium (524 1516).

Ruggero Raimondi, Bass, Orchestre de l'Ile de France conducted by Jacques Mercier: Glinka, Mussorgsky, Borodin (Wed) TMP-Châtelet (261 1983).

Moura Lympany, piano: Schumann, Beethoven, Brahms (Wed) Gaveau (563 2030).

Orchestre de Paris with Ashkenazy, Barenboim, piano, Brana Delecluse, percussion: Mendelssohn, Delecluse, Stravinsky (Tue) Salle Pleyel (563 0796).

Orchestre de Paris conducted by D Barenboim, Ashkenazy, piano: Glinka, Prokofiev, Mussorgsky, Ashkenazy (Wed, Thur) Salle Pleyel (563 0796).

NEW YORK

New York Philharmonic (Avery Fisher Hall): Zubin Mehta conducting, Itzhak Perlman violin. Mendelssohn, Mahler (Tue); Zubin Mehta conducting, Itzhak Perlman violin, Joseph Robinson, oboe. Bach, Saint-Saëns, Varese (Thur). Lincoln Center (874 2424).

Carnegie Hall: Boston Philharmonic, Benjamin Zander conducting, Anne Squire violin. All-Beethoven programme (Mon); Philadelphia Orchestra, Riccardo Muti conducting, Elizabeth Connell soprano, with the Westminster Choir directed by Joseph Flummerfelt. Verdi: Macbeth (Tue); Lausanne Chamber Orchestra, Armin Jordan conducting, Kathleen Battle soprano: Strauss, Wagner, Handel, Haydn (Wed). (247 7459).

Musica Sacra: five concerts in the ten day "Basically Bach" Festival will feature Richard Westenburg conducting the Musica Sacra Orchestra and Chorus, with chamber works by Handel and Telemann, as well as Bach, performed by the group, including Anthony Newman, harpsichord. Avery Fischer Hall and Central Presbyterian (64th & Park). (874 3104).

WASHINGTON

Shura Cherkassky piano recital (Terrace): Bach/Busoni, Schumann, Berg, Liszt. Kennedy Center (254 9895).

CHICAGO

Chicago Symphony (Orchestra Hall): Sir Georg Solti conducting, Kyung-Wha Chung, violin. Bach, Berg, Bartok, Wagner (Thur). (435 8111).

BRUSSELS

BRT Philharmonic Orchestra conducted by Yuri Ahronovich with Robert Groslot, piano, Rudolf Werthen, violin, France Springuel, cello: Beethoven. Beaux Arts (Fri, Sun).

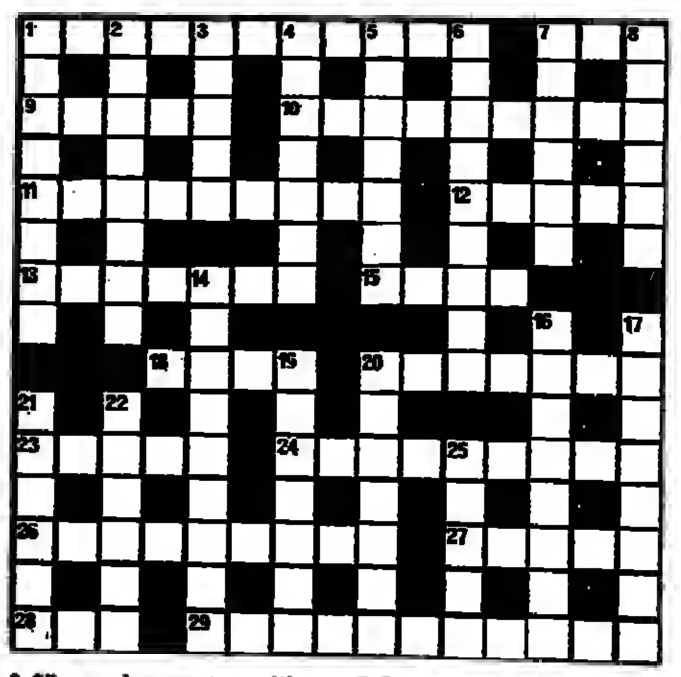
Belgian National Orchestra conducted by Georges Octors with Henryk Szeryng, violin: Schumann, Szymanowski, Brahms. Beaux Arts (Thur).

WEST GERMANY

Berlin Philharmonic: the Berlin Philharmonic Orchestra and the St Hedwig's Cathedral Choir conducted by Riccardo Chailly with Verdi (Mon, Wed).

Solution to puzzle No. 5,236

F.T. CROSSWORD PUZZLE No. 5,238



ACROSS

1 Not even a French novelist finishes miscellaneous articles (4, 3, 4)
7 Sum up a cleric (3)
9 Affected speech given by a doctor on law-breaker (5)
10 Parson promises to pay for someone else (9)
11 Direction for guardians? (9)
12 Knowing there's a fight to get the key (5)
13 Metal cover protects the sewer (7)
15 Similar to a family group (4)
18 Game is a southern game (4)
20 Regalia thrown out by republic (7)
23 The trouble with one hundred is moral (5)
24 He won't look you in the eye when you speak to him (3-6)
26 U.S. soldier holds a rude Italian union leader (9)
27 He goes into a ship and remains (5)
28 Look at the middle of a cyclone (3)
29 Trademan's entrance (4, 7)

DOWN

1 A doubter disposed to be stubborn (8)
2 Sort of work in which people want to take part? (8)
3 Silver down at melting-point? (5)
4 Revised, made different (7)
5 Despoiled icon is restored to a city of Cyprus (7)
6 Scholarly method of classifying new emigrants (9)
7 Hooded jacket Rex found in a tree (6)
8 Before the end of the day Denis may become a famous cartoonist (6)
14 Blocks destined for hot water (4, 5)
16 Old training manual (6)
17 Room for good investments? (6)
19 Girl I sign on as an astronomer (7)
20 Made a request for a very quiet German song (7)
21 A union measure (6)
22 Prime object of care (6)
25 Bend an ear to the Muse of poetry (5)

The solution to last Saturday's prize puzzle will be published with names of winners next Saturday.

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Monday October 10 1983

Small tremor in the Alps

SWITZERLAND will hold a general election on October 23, but the real upheaval in the country's government this year will be caused not by the voters, but by the passing of time. The electorate, almost beyond doubt, will confirm the four-party coalition in power since 1959. But two Ministers last week handed in their resignations, pleading age and their wish for a change after 10 years in office. The event is not unprecedented: 10 years ago as many as three vacancies needed to be filled on tha seven-member Federal Council or Government. Yet to appreciate its import one needs to know that since 1848, wben modern Switzerland was founded, only 91 men (and no women) have served as Ministers.

The two men to go are M Georges-Andre Chevallaz, 67, a member of the Radical or Free Democratic Party, who runs defence; and Herr Willi Ritschard, 64, a socialist in charge of finance. Losing them will not upset the Swiss political system, but their departure could leave a serious hole. Botb men are popular, and it is an acknowledged weakness of Swiss public life that well-developed democratic machinery, complete with referendums on all matters of substance, has not prevented the political elite losing touch with the grass roots. Herr Ritschard especially appeared to be tbe exception to that rule. He was known for salty sayings and for a political pragmatism that often left him at loggerheads with his own party.

Sufficient evidence of tha existing divide between electorate and elite is provided by the fact that turnout at the last election in 1979 dipped below 50 per cent. As a rule even fewer voters bother to turn up for the referendums. This isolation of the leadersbip could, one day, become internationally embarrassing when a referendum is held on wbether to join the United Nations. The majority of tbe political elite wants to go in, but opinion polls have left no doubt that the Swiss on his Alp is sceptical or outrightly bostile. The new Parliament will bave to address the matter, but it may oot be resolved before the next election in 1987.

Ao even greater breach with tradition may be in store sooner. In December the new legislators will have to elect successors to M Chevallaz and Herr Ritschard, and there is more than a possibility tbat the socialists may pnt up a woman to succeed the lattar. The potential candidate is Dr Lilian Uchtenhagen, a member of the parliament not without opponents in ber own party. But if the socialists do put her up she should be at least half way to becoming the first woman Federal Councillor in Swiss bistory. The other parties would risk being labelled male chauvinists if they were to turn down the socialists' choice, even though Dr Uchtenhagen bas the reputation of being a hit of a left-winger (in Swiss terms).

Considerations

No such special considerations obtained 10 years ago when three vacancies arose in the Federal Council. Each of the three coalition parties put up one candidate, only to see them all rejected by the legislators. The Parliament then proceeded to elect men of its own choice from the three parties, among them M Chevallaz and Herr Ritscbard. The incident demonstrates that the system is not only slow to change ministers; slow to recognise international realities; and slow to put into practice female eqnality. It also has a built-in bias towards a consensus of the centre and towards favouring the cross-bench mentality as in the case of Herr Ritschard, the socialist elected to the cabinet by the non-socialists.

It is fasbionable to denounce the result as sbeer immobilism. But even if Dr Ucbtenhagen does not make it into the Federal Council the facts speak differently. The Swiss do shift, but only in their own good time. A standard of living that is the envy of the world testifies to the material success of the system.

It is not a system that can be transferred elsewbere; history and geography both conspire to make Switzerland a special case, even among the smaller west European states. But the Swiss experience shows that there is an alternative to political and social confrontation which is more than a lame agreement not to grasp nettles. The price paid by the Swiss is that politics bores many electors.

Should the system fail to master current challenges, economic as well as political, a more vigorous public discussion of many comfortable assumptions will become inevitable.

Power without purpose

MRS THATCHER'S Government needs to reassert itself, starting at the Tory Party conference in Blackpool this week. Since the General Election in June, there has been a political paradox: an administration with renewed authority and a huge majority in Parliament, but an apparent ebbing away of any sense of direction. It is almost as if tha stronger you are, the more accident-prone you become. Some call it hubris—whicb leads to nemesis.

Part of the problem lies in the rushed nature of the election itself. The Tories hit the jackpot. But the price was an equally rushed manifesto wblch did little more than record the performance so far, and took small account of the difficulties abead. There have been few signs that the Government knows what to do with its victory.

No doubt some of the subsequent embarrassments can be overcome, but they can be scarcely overlooked. The Government did, after all, cut defence expenditure only a day or so after the publication of the defence estimates, which hardly looks like organised planning. The pro-Thatcher wing of the Tory Party did not come very well out of the debate on capital punishment. There was a mass break-out from the Maze prison in Belfast at the very time when it seemed that the forces of tbe IRA might be on the retreat. And, without dwelling on tbe personal circumstances of Mr Cecil Parkinson, it is worth remembering that, as Party Chairman, it was he more than anyone else, who persuaded the Prime Minister to go to the country premsturely and to accept such a bland manifesto.

Advice

There is other evidence either of a loss of toucb or s retreat into the bunker. It is odd to assert Britain's status as a great power by cooducting a crusade against the Soviet Union. Surely the purpose of a great power, especially in this nuclear era, is to pursue diplomacy and not just preach propaganda.

Mrs Thatcher has abolished tbe government think tank, but witbout producing any replacement that would provide a steady flow of sometimes unwelcome but necessary advice and analysis. The machinery of government, indeed, looks even weaker after the election than it did before, and more closed. Even one of the few new proposals in the manifesto, tbe abolition of the Greater London Council and the Metropolitan Councils, looks like running into trouble in the House of Lords, and the White Paper has again come out in a rush.

Charges

Above all, the Government is vulnerable to charges that it has not thought out the future of the social services in general and of the health service in particular. It is a perfectly respectable argument to say that the costs are increasing beyond the present capacity to finance them. The Government would be culpable if it did not present the facts as it saw them in the ligbt of demographic change and low economic growth. Yet when the think tank made an attempt over a year ago, its paper was suppressed. Mrs Thatcher and her Ministers spent the election campaign saying: "The bealth service is safe with us." They should not be surprised if not everyone believes them.

Indeed the Government loses both ways. By not publishing the full extent of the nature of the problem, it makes reform more difficult. By seeking reform through the back door, it undermines its claims that the social services will remain intact. At the very least, there should now be a Green Paper giving projections to tha end of tha decade, and policy options.

Since the election, politics bas not been static. Dr David Owen has embraced the social market economy for the SDP. The Labour Party has a new leader and is showing signs of unity. Tbe far left is on the retreat.

All that is, at least indirectly, a tribute to Mrs Thatcher. But it is hope for the future rather than solace for the present. In the meantime the Tories are in the driving seat and should ba there for a good four years. The Prime Minister needs not only to drive, but to say where she is going. Her first term brought a welcome change in attitudes; a strategy for the second is still missing.

Nationalised Industries: Results Compared

BRITISH GAS — British TELECOM — Electricity Council — Post Office — British airways — BS — NCB

All figures £m	British Gas 1982-83	British Gas 1981-82	British Telecom 1982-83	British Telecom 1981-82	Electricity Council 1982-83	Electricity Council 1981-82	Post Office 1982-83	Post Office 1981-82	British Airways 1982-83	British Airways 1981-82	British Shipbuilders 1982-83	British Shipbuilders 1981-82	British Rail 1982	British Rail 1981	National Coal Board 1982-83	National Coal Board 1981-82	British Steel 1982-83	British Steel 1981-82
Turnover	5,958	5,235	6,277	5,708	9,187	8,471	2,714	2,497	2,497	2,241	1,093	1,026	2,817	2,899	4,932	4,727	3,231	3,443
Disclosed profit*	723	360	365	458	332	(85)	139	103	62	(114)	(110)	(14)	(175)	(40)	(489)	(425)	(871)	(512)
CCA profit (plus gearing adjustment)*	755	397	626	654	502	105	154	94	45	(144)	(162)	(39)	(238)	(124)	(597)	(521)	(876)	(569)
External financing limit (EFL)	(87)		310		(148)		(56)†		(9)		122		920		962		575	
EFL actual outcome	(230)		0		(153)		(60)†		(35)		120		960		951		569	
Capital expenditure	801		1,596		1,270		125		173		43		168		752		122	
Change in workforce (%)	−3.3		−2.3		−3.6		−1.1		−13.2		−3.1		−5.3		−4.8		−21.8	

* After interest, before tax and extraordinary items. † Excludes National Girobank.

Nationalised industry —a partial account

By John Plender

THE OUTCOME of tbe nationalised industry reporting season has been a less cheerful affair than some ministers might have hoped. As James Thurber once remarked, a burden in the bush is worth two on your hands; but full privatisation looks painfully remote at British Steel, the National Coal Board, British Rail and British Shipbuilders, whose combined pre-tax losses were more than £1.6bn last year.

That is not to say that Whitehall has uniform cause for complaint. As the negative external financing limits (EFLs) — in effect, cash payments to the Government — in our tabla suggest, most state monopolies did a fine job in generating cash for the Treasury, which also derives satisfaction from the greater emphasis being placed in annual reports on performance targets and accountability.

But does accountability run more than akin deep? As far as the accounts themselves are concerned, every state enterprise in our table has, without exception, chosen to adopt in its main accounts the definition of profit that most suits its book. Profitabla state monopolies opt for current cost figures, which reduce their disclosed profits (from £1.5bn to £332m in the extreme case of the Electricity Council) while loss-making enterprises all choose the historic cost basis, which throws up lower losses. The table thus includes separate current cost figures, together with a gearing adjustment, which arguably provides the least misleading hasis for comparisons which nonetheless remain impressionistic.

The confusion (see Andrew Likierman's article below) is to some extent counterbalanced by the use of financial targets and EFLs. But not that much, as can be seen in the following: **Financial Targets.** The target given to British Shipbuilders last year by the Government was a limit of £10m on trading losses. The outcome: a trading loss of more than 10 times that sum—£117m. "Unprecedented difficulties" with four major contracts and a customer default were cited as reasons for the shortfall, which would have been substantially bigger if restructuring costs had been charged against pre-tax profit as at British Steel.

Over the past four years British Shipbuilders has made losses of £288m; and these were *after* crediting government grants of £205m. Yet outgoing chairman Sir Robert Atkinson makes the hreathtaking assertion that "excluding these particular difficulties, the corporation would have demonstrated, onca again, the underlying viability of the industry as a whole."

In fairness, targets are hard to meet in a business where the whole capital base is equivalent to less than 1 per cent of gross work-in-progress. But what are the sanctions for missed targets?

By contrast, all the profitable state monopolies are way ahead of the target returns on net assets (or sales in the case of the Post Office). In the past that has reflected the ease with which they can raise prices. But this year, apart from the Government-imposed increase at British Gas, prices have been stable. Did Whiteball allow targets to be set unrealistically low?

External Financing Limits. The discipline is becoming less effective as EFLs become progressively more bendable. The extreme case is British Steel where the original limit of £365m was lifted to £575m. Moreover, the Treasury end transcends the means: the control is indifferent as between capital cuts, revenue cuts and price increases. There lies part of the explanation for the nationalised industries undershooting their planned capital expenditure by £1bn last year —a dismal ontcome where human resources in Britain are desperately underutilised.

Accountability and performance data. Structural change to achieve improved accountability has a long way to go. At the National Goal Board one of the Monopolies Commission'a better reports earlier this year revealed that managers around the country lived in a strange one-dimensional world dominated more by physical volumes of coal than adequate financial yardsticks. Despite the fact that the husiness has become far more capital intensive in recent years, there was a reluctance to allocate the £366m interest bill around the husiness, which is also reflected in the supplementary information in the annual report. And where does British Telecom make its money? The accounts this year contain the astonishing admission that the results attributed to the different parts of the business are unreliable.

The trouble with performance data is that the industries themselves choose what to publish. As a spokesman for the Post Office remarked: "We know, being experts, whnt are the economically viable targets." They do indeed: tariff summaries vanished from the Post Office's annual report in 1979-1980 when there were two large price rises. The service standards included in the Post Office'a quality of service index have been changed several times.

At the Electricity Council, meantime, the results of the appliance sales by area boards disappear in a joint account with the electrical contracting activity. An interesting exception is the London Electricity Board, where prodding by the Monopolies Commission and the London Electricity Consultative Council has led to disclosure. Appliance sale loss last year: £1.3m.

So where, in terms nf accountability, do the industries gn from here? Such are the vested interests involved that it is probably beyond the power of a divided accountancy profession to achieve consensus on public sector accounting. But it should be possible to find a better way of defining the financial relations between the industries and government that the present ragbag of crude EFL's, levies and other cash extraction devices.

The time is also ripe for Whitehall to look at the related subject of capital structure. In the absence of agreement on inflation accounting there is a case for extending index-linking to National Loans Fund advances to provide a real cost discipline and a sensible yardstick against which to measure returns. Closer government and consumer involvement in performance targeting is overdue.

Where profit and loss don't measure performance

By Andrew Likierman

ONE OF the best loved sporting seasons in the British economic calendar has just come to an end. All the nationalised industries have now reported. The chairmen have congratulated their teams or sternly talked about the need to play better next season. Off the field, ministers and the press have earnestly discussed deterioration or improvement. Yet almost all the jndgments about the season'a performance are based on a number which is completely inappropriate to give signals abont how well an industry has done—the announced profit or loss figure.

Take the much-trumpeted British Airways turnaronnd from a £544m loss in 1981/82 to a profit of £77m last year. Great has been the rejoicing as ministers have seen tha possibilities nf privatisatinn sooner rather than later. Bnt, on examining the figures, a rather different story emerges.

The £544m included "extraordinary" debits of over £400m and these, according tn the relevant accounting standard, are nnt supposed to be inelnded in the nrdinary profit for the year. Anyway, both figures are after interest charges which are outside management control. Taking the figure before these items, the turnaround was not last year at all, but the year before.

A closer look at the figures reveals that, although the management has done well, it is not certain whether the airline was even making a profit last year. The chairman himself has said that additional depreciatinn is required to ensure that the value of the business is not eroded by inflation. However, none of the above figures incorporates this adjustment.

Contrast British Steel's figures. Last year it reported a slight increase in losses from £339m to £386m. Closure costs were excluded. Yet according to accounting standards, these "exceptional" items should have been included to give an increase in loss from £504m to £872m. Over the past four years the profit difference would have been no less than £2.3bn.

None of this will come as a surprise to the key participants in this particular sport. It is the same game played by large private sector organisations, where judicious treatment and use of profit figures is commonplace. And the chairmen and finance directors of the nationalised industries, whn are as capable as any in the private sector, are well aware of what is possible. But these issues become a matter of public concern when the figures relate to publicly owned industries and when crucial decisions are hased on them. The indications here are not encouraging—the pronouncements of some ministers and most wage negotiators show that they often do not understand what the figures mean.

It is, of course, always difficult tn interpret any set of profit figures without looking at what lies behind them. Is it efficiency and careful management which has improved the results or events outside management's control? Quite apart from such judgments, there are three sets of factors which need to be taken into account.

● The treatment of inflation, which is as controversial an issue in the private sector. Bnt for nationalised industries the current position amounts almost to a state of anarchy (see above).

● Accounting problems common to the private sector but made much worse hy the complex nature of the nationalised industries. For example, nuclear reactors or Waterloo Station are genuinely very difficult tn value, and who yet really knows what the provision should be for the decommissioning of the nuclear reactor?

● Factors peculiar to nationalised industries. Complications arise because there is no agreement about why most industries are in the public sector, any way. It is clearly not to make as much profit as possible. British Gas profits, for example, must be affected by the Government's decision first to raise gas prices and then to impose a levy. And if cheap coal is not imported because of a special deal with the miners, electricity profits will suffer.

All this would be irrelevant if nobody took any notice of the profit figure, if all the necessary adjustments were made or if other key figures were used with profit or loss tn judge perfnrmance. On the contrary. The profit figure is increasingly quoted, reflecting the Government's emphasis on private sector practice.

But the message from the profit figure is about tn become even more misleading if, as predicted in a Financial Times editorial, titled Accountants lose their nerve, on September 8, the accountancy profession moves smartly backwards on adjusting accounts for inflation. Since the profit figure will continue to be used to measure performance in State-owned industries with such a high public profile, the Government cannot allow backwoods pressure-groups in the accountancy profession to decide the issue. It should insist on full inflation adjustments and give clear guidance on the interpretation of the rest of accounting practice and standards to restore the credibility of the profit figure.

Andrew Likierman is a senior lecturer at the London Business School.

Men & Matters

Portes' ambition

An American economist, Richard Portes, who, at the age of 31, persuaded a London university college to establish a new postgraduate department and make him one of the two professors in charge, is clearly qnite an achiever even by transatlantic standards.

So it is not altogether surprising that the same American—10 years on—has now managed to raise £750,000 with the help of such unusual donors as the Bank of England in order to establish a new independent research centre—to be called the Centre for Economic Policy Research.

For Portes, who looks even younger than he is when he can keep his devotion to gourmat food in check, it is the consummation of what amounts to an Anglophile love affair.

Born and raised in Chicago, and educated at Yale, he arrived at Balliol College, Oxford, as a young postgraduate. There he worked closely with Thomas Balogh from whom he got his first imp's-eye view of the workings of the British establishment.

He became as fascinated as his mentor, although not as cynical—but when he tried to tone down some of Balogh's famous barbed footnotes ha found the Treasury's favourite hate figure laboriously removing his corrections with an Indisrubber. "I am too old to change," Balogh explained.

He broadened his field to the whole of the Comecon world, and thus was on hand as the laading academic expert when the bankers suddenly needed to know whether they would ever get their money back from Poland.

Thoae were only part-time distractions, however, from a more esoteric career aa a macro-economist, moving from Balliol to a teaching joh et Princeton, and then on to his professorship at Birkbeck. More recently he has added a part-time professorship in Paris to his portfolio.

Before boarding a plane for Paris at the weekend, en routa for Warsaw, Portes confessed to yet another ambition. He wants to privatise Whitehall policy research, and then go public with the results.

"We can do it cheaper," be says "and better." That is not, one suspects, quite what our leak-sensitive prime minister has in mind.

By the way, Portes' new centre sbould not be confused with the Conservatives think-tank, the Centre for Policy Studies, which is in tha process of being revamped with an enlarged board in order to serve Mrs Thatcher's needs more directly.

Star turns

With metals men from all parts of the world arriving in London this week for the annual ritual of conferences and junkets—culminating in the London Metal Exchange dinner — the London hosts bave been girding their loins. Some, indeed, have it ringed on their calendars as "cirrbosis week."

One of their number, Daniel Pallsnt, a director of Commodity Consultants, is anxious to spare them tha worry of studying the markets—an unwelcome distraction from the delights of the social rouod.

Pallant firmly believes that metal trading is heat conducted by recourse to astrology—and claima he has well-satisfied clients to prove bis point.

A *conjunction* of the moon and Saturn last Friday has "bullisb" implications, he talls me. But there la a snag. An ingress of the planet Mercury over the weekend may result in the overall market pictnre being "bearish."

Nevertheless, the heavens tell him that copper prices should continue to rally in the first part of the week.

Matal traders who see stars this week can, it seems, claim it is all in the line of duty.

"If they're like this on the terraces what's the annual shareholders' meeting going to be like?"

City blues

Tony Arrowsmith, the ad agency man behind Birmingham Council's campaign to change the image of Britain's secood city, is getting irritated with the sniping about tha choice of George Melly to promote its leisure activities.

Everyone, he says, knew that writer and Blues singer Melly had made uncomplimentary remarks about the city in the past. His attraction was that ba was a late but firm convert.

But Arrowsmith does confess that his company, Charles Barker Black and Gross, was posed a problem by its initial market research. "Well informed business" (the target market) when asked, could identify only two personalities with Birmingham—the actress Beryl Reid (Marlene of the hig earrings) and Janice ("I'll give it five of Thank Your Lucky Stars). "We didn't think they quite fitted the aims of the campaign," says Arrowsmith.

Gloom dispelled

"I don't think there ever were any good old days in the past. I think the world will be better in 50 years than it is now, and that it is better than it was 50 years ago."

Dr Henry Kaufman, the resident economic saga at Salomon Brothers, the New York investment bank, summed up his philosophy thus at a Rotterdam symposium at the weekend held by Robeco the self-effacing Dutch investment trust group (wblch nevertheless claims to be the biggest outside the U.S.) to mark its 50th anniversary.

Kaufman refutes the image of Dr Gloom with which he has been tagged by some financial writers. He thinks there is no reason why equity marketa should not go on growing more or less for ever at the rate thay have been growing in the past few years.

Sea chase

From a brochure issued by a California travel agent: "This is a cruise for the young and the young in haart—12 glorions days enjoying your birthright as an American: Life, Liberty and the Happiness of *Pursuit.*"

Observer

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HONG KONG

End of the road for Carrian

By Robert Cottrell in Hong Kong

A SINGLE hand-written line appeared on Saturday morning in the record of winding-up petitions held with the registry of Hong Kong's Supreme Court. It noted the filing of petition number 241, against a property company called Carrian Investments Limited. The previous line recorded a petition filed on Friday against the China Underwriters Life and General Insurance Company, a subsidiary of Carrian Investments.

The first legal steps were being taken towards what may prove one of the world's largest and most complex bankruptcies, involving total debts currently estimated at U.S. $1.2bn.

The Carrian Investments petition is being sought by Bankers Trust, whose Hong Kong manager, Mr Valdemar Bertelson, attended a High Codrt bearing in chambers on Saturday at which three accountants were appointed as provisional liquidators.

While the winding-up bearing took place, other Carrian business was being transacted against a different legal background. Inside Laichikok detention centre, on the Kowloon side of Hong Kong, a board meeting was taking place of Carrian Holdings, the unquoted parent company of Carrian Investments. Mr George Tan, chairman, and fellow-director Mr Bentley Ho, were being detained pending the raising of bail granted them while facing charges under Hong Kong's Theft Ordinance.

The board meeting heard the resignations of Mr John Marshall and Mr Rod Bell, who left the Hong Kong affiliate of accountants Price, Waterhouse in 1982 to take senior managerial jobs at Carrian. It also heard that Wardley, merchant banking arm of the Hongkong and Shanghai Banking Corporation, was resigning as financial adviser to Carrian Holdings, and that Hambro Pacific, Hong Kong arm of London merchant bank Hambros, was resigning after seven months as financial adviser to Carrian Investments.

The end of the road has been reached, one year after Carrian Investments first reported "liquidity difficulties," and nine months after its shares were suspended on Hong Kong stock exchanges. The question now is not whether there is anything left for shareholders, but how much of their loans bankers can hope to recover. For Carrian Investments, which enjoyed a market capitalisation of HK$6bn (£469m) in 1981, it had been a meteoric four-year life through the Hong Kong property boom-and-bust.

It is too late now to undo the financial damage which Carrian's collapse may have done, but the full consequences of that collapse are only slowly being publicly acknowledged. Malaysia's Bank Bumiputra is believed to have the largest exposure to Carrian-related debt, perhaps of more than $500m. The Hongkong Bank group has a smaller, but probably substantial, exposure.

The affairs of Carrian and other local companies are now likely to jolt the Hong Kong Government into requiring public companies to disclose their ownership and share dealings. The Hong Kong stock market may, as a result, lose some of its freewheeling character.

It must also be worrying for Hong Kong to face a prolonged and public inquest into a spectacularly crashed conglomerate at a time when its future is under negotiation between Britain and China, during which Britain is arguing that Hong Kong's present structure is so efficient and healthy as to demand absolute preservation.

It seems likely that legal proceedings against Mr Tan and Mr Ho could last anything between six and 18 months. Mr Tan is charged with making false or misleading statements as a company director. Mr Ho faces the same charge, plus an additional one of false accounting. Tha charges relate to elements of Carrian's 1981 annual report. Both men deny the offences.

Bail was granted them following a one-day magistrates' hearing and a two-day High Court review in chambers. Mr Ho's bail is set at HK$1m. Mr Tan's bail is undisclosed, but tha sum was "substantially increased" from tha HK$2m originally set by magistrates.

Sir John Bremridge, Hongkong's Financial Secretary, has characterised tha property boom years as days in which "all the merchant bankers were driving new BMWs." New, aggressive young merchant bankers wanted to make business, and property firms wanted to borrow to finance speculative projects.

Since no Hong Kong company is legally obliged to say who owns it, bankers were not particularly dismayed by Carrian's reticence on that score. Some asked for loan security, and got it — in the shape of shares and property whose market value now is a fraction of its potential valuation two years ago.

As an indicator of how the property boom boosted Hong Kong lending, local published syndicated loans — virtually all to property companies — leapt from HK$1bn in 1979 to HK$6.5bn in 1980 and to HK$12.3bn in 1981.

Mr George Tan, according to court hearings last week, is 49. When in April he was arrested and bailed by Hong Kong's independent commission against corruption, be surrendered three passports — Singaporean, Paraguayan and Tongan. He came to Hong Kong in 1972, according to Crown prosecutors on a three-month visa which he overstayed. He then worked for a prominent local family, the Chungs, whose own property firm, EDA, is now in liquidation.

Together with associates, Mr Tan dealt modestly in Hong Kong properties, carrying price tags of perhaps HK$2m to HK$20m, through the mid-1970s. There was little to foreshadow the quantum leap in Mr Tan's operations in 1979 when he found HK$700m to take over a quoted company, Mai Hon, and renama it Carrian Investments. In 1980, he found HK$998m to buy an office block, Gammon House, which he soon resold.

As Carrian Investments grew, it bought one-third of a local bank; a majority stake in an insurance company; Hong Kong's fourth-largest shipping fleet, Grand Marine; a large headquarters building and a diverse property portfolio. Typically, it paid well over book or market valne.

Clearly, Mr Tan was in effective control of the Carrian Group. But its ultimate shareholders remained a mystery. Carrian Investments' unquoted parent, Carrian Holdings, was owned in turn by a nominee company. Local gossip linked Asian politicians and the Moscow Narodny Bank with Carrian Nominees. Investors' enthusiasm was spiced with the thought that they might be piggy-backing on majority shareholders far richer than thamselves.

In fact, bankers and shareholders themselves appear to have been the supposedly-mysterious source of Carrian's ample funds. Between August 1980 and June 1982, Carrian Investments' shares in issue rose from 246m to 1bn, with half the new share issues used to acquire assets.

Bankers, meanwhile, were lending both to Carrian Investments, the quoted company, and Carrian Holdings, the unquoted parent. Carrian Holdings' main asset, its majority stake in Carrian Investments, was available as collateral.

As Carrian grew in size, so it did in complexity. It spawned literally dozens of subsidiaries and associates, rejoicing in such exotic names as "Smartmoney Ltd," "Eager Earning Ltd," and "Extra-dollars Ltd."

At its peak in 1981, Carrian's origins, ownership and rationale remained—despite the extent of the group's activities—mysterious but if that mystery helped Carrian grow, so it also contributed to Carrian's decline.

For almost a year after Carrian first declared "liquidity difficulties" in October, 1982, bankers struggled to obtain a clear and complete picture of the group in order to assess the feasibility of a debt reconstruction. Some things gradually became clear: Carrian was based on borrowed money, put to effective use through the trading of assets on down-payments and deferred terms; group assets were almost wholly pledged against loans; Carrian Holdings contained virtually nothing except Carrian Investments shares; and one of the group's largest and earliest lenders was Bank Bumiputra Malaysia, operating through its Hong Kong arm, Bumiputra Malaysia Finance. Carrian's "liquidity difficulties" amounted to having encumbered its assets so totally that it could no longer borrow new money, while declining property and share prices were causing lenders to ask for a topping-up of security on existing loans.

Bankers, believing they might stand to lose more by liquidating Carrian than by reconstructing it, negotiated until mid-September this year with the group and its advisers. But, just as they were being asked finally to agree a debt reconstruction deal, a highly-publicised four-day police raid on Carrian's beadquarters, beginning on September 10, shattered sentiment and effectively torpedoed the bail-out.

It was left to Crown Prosecutor, Mr Warrick Reid, to present publicly, at last Tuesday's court hearing, the latest official understanding of Carrian's debt position. Amounts owed by the Carrian Group companies included in the debt reconstruction scheme totalled some HK$ 6bn. But the books of Bumiputra Malaysia Finance showed loans considerably in excess of those documented as Carrian Group liabilities. According to Mr Reid, total borrowing of companies associated with Carrian and privately with Mr Tan, exceed HK$ 10bn, of which HK$ 2bn is "unaccounted for."

Why did Bumiputra lend what now seems to be more than US$ 500m to finance one man's inspiration? And why to Georga Tan? These are the enduring questions in the Carrian mystery, which even one senior Carrian executive cannot answer. "It has been particularly interesting," be said yesterday, "over the past month to have people explain to me exactly what has been going on."

Lombard

More ideas on those debts

By Samuel Brittan

THE City University Centre for Banking organised last week a conference on Financial Crises and the World Banking System. A round-table discussion on the international debt problem was chaired by none other than Mr Peter Middleton, British Treasury Permanent Secretary, who did his best not to make direct policy pronouncements but did nothing to discourage the more unorthodox thoughts.

The present and orthodox approach to the debt problem was very clearly presented by Prof. Richard Sargent, of the Midland Bank, who summarised it as "rescheduling, retrenchment and recovery." Tha retrenchment is to be carried ont by the debtor countries on lines worked out with the IMF. "Rescbeduling" is not a complete description as it includes new money to enable tha borrowers to repay the interest on existing debts. "Recovery" refers to the recovery of the industrialised world which, it is hoped, will boost the earnings of the developing countries and enable them to service their debts without too many more emergency operations. This prospect depends on protectionism being held sufficiently at bay to enable the dabtor countries to sell more of their exports in the West.

The beretics comprise Dr Anna Schwartz, the distinguished U.S. monetary historian, Prof Allan Meltzer of the shadow Open Market committee and a real central banker, Dr Kurt Schiltknecht of tha Swiss National Bank. They argued that many of the overseas debts were never going to be fully repaid or serviced, and that bankers should be made to recognise reality by writing down the value of their loans, perhaps according to some estimate of their true market value.

Dr Schiltknecht seemed to have in mind the generalised writing down of loan portfolios which some Swiss and German banks have already carried ont. The academic speakers envisaged case by case arrangements in which debtors had their interest payments formally reduced. Prof Meltzer was also keen on transforming debt into equity, e.g., in the shape of ownership of Latin American banks and businesses.

We had the fascinating sight of monetarist economists criticising the IMF for being too restrictive, e.g., requiring import cuts which reduced, for instance, trade between Brazil and Argentina to no one's benefit. They also stressed that a debt write-off would reduce the foreign exchange outgoings of debtor countries far more effectively than IMF-led rescbeduling. The biggest obstacle to such a write-off was, indeed, the IMF rescue operations themselves, which encouraged banks to suppose that their loans could be treated as being really worth their face value.

There is clearly a possibility that a debt write-off will wipe out all the net worth of some individual banks. But we must not fall for the line which identifies world financial stability with the continued existence of every individual bank and the prosperity of its shareholders and management. Small depositors would in many cases be protected by deposit insurance arrangements, and banks in troubla could be taken over by others who would accept a fairly large proportion of their liabilities. But an approach along these lines is only acceptable if Central banks are really able and willing to step in as lenders of last restort to maintha liquidity of national banking systems. The present delphic silence on this topic would have to end.

Having gone as far as we have on tha orthodox rescheduling route, it would be unwise to wind up IMF rescue activities at present. But the existing approach could run into trouble in a number of eventualities: for instance, in the next recession or even earlier if U.S. interest rates rise in 1984-85 by more than the dollar falls. A showdown could also be precipitated by borrowing countries suspending interest payments. Thus, there is an overwhelming case for contingency plans for a debt write-off. This will not, of course, be the preferred solution of the banks themselves, which are at the end of the day profit-maximising institutions, seeking official favours where they can, and not platonic guardians of the public interest.

Letters to the Editor

Strength of the dollar on the foreign exchanges

From the Chief Economist, Capel-Cure Myers

Sir,—I wish to support Samuel Brittan against Professor Pearce and Dr Thomas (October 5). They argue that the strength of tha dollar on the foreign exchanges can be put down to the supply of new dollar deposits drying up owing to a reduction in trade surpluses (presumably, referring to the Organisation of Petroleum Exporting Countries). This leads to a shortage of dollars which, through the usual forces of supply and demand, will cause a rise in the price of dollars—the exchange rate.

This argument strikes me as fallacious. There is no way that banks, Eurobanks or others, are left with a net shortage of dollars. This is because, if Opec (or other) trade surpluses diminish, other countries will experience either higher surpluses or lower deficits. Thereby, either other countries increase their flow of new dollar holdings or are able to reduce their dollar borrowings. Either way, banks as a whole have experienced no dollar shortage.

At a different level, changing patterns of surpluses and deficits could contribute to an explanation of dollar strength but the argument would rest on the different portfolio preferences (with regard to both assets and liabilities) as between currencies of the countries undergoing changes in their trading balance. But it is far from clear that the evidence would support such an argument and in any event Professor Pearce and Dr Thomas do not appear to be pressing this case.

Samuel Brittan is surely right in pointing out that the strength of the dollar was unforeseen "by any Government or international organisation or any school of economic thought." This does not imply, however, that it is impossible to advance *ex post facto* explanations which are compatible with umpteen schools of economic thought.

But the most convincing argument, in my view, is that dollar strength is due to the attractions of dollar assets based on three connected factors: high U.S. interest rates, confidence in dollar strength, and worries about other financial assets in a period of considerable financial and economic instability on a world scala (the "safe haven" argument). This is a far cry from the esoteric argument advanced by Professor Pearce and Dr Thomas.

Roger Bootle.
Capel-Cure Myers,
Bath House,
Holborn Viaduct, EC1.

Tenders and cheques

From Mr G. Blunt

Sir,—A tender is an offer to buy what is tendered for at the chosen tender price. If rejected, the seller has no right to use tha tenderer's money; he may take time to consider all the tenders and delay acceptances until cheques are cleared. But to cash cheques for refused tenders means the seller is using moneys for which he is not giving any value.

Tenderers should attach a note to their cheques making their encashment conditional on acceptance in part or toto. If all tenderers did this, no misuse of their funds could take place.

G. Blunt.
5, Priory Crescent,
Wembley,
Middlesex.

Offer for shares in BP

From Mr C. Perry

Sir,—I should like to be allowed to reply to the letter from the secretary of British Petroleum (September 23) as matters of far-reaching significance are involved.

Mr Wedgbury says my comment (September 22) "appears to be based on a misconception. Section 38 of the Companies Act 1948 does not apply to this offer for sale since the prospectus has not been issued by or on behalf of BP." But the offer document was based on information supplied by BP's directors who said: "... that there are no other material facts the omission of which would make misleading any statement herein, whether of fact or opinion, relating to the BP group. All the directors accept responsibility accordingly." As company secretary, Mr Wedgbury has not of course denied the thrust of my statement: "The public is being invited to subscribe for shares on the basis of fictitious accounts instead of those of a legal entity."

The provisions of the 4th Schednle to the 1948 Act to which I referred, apply to the contents of a report by the auditors: "Matters to be specified in prospectus." One of the documents issued (for United States purposes) was headed "Prospectus." If BP is saying because the offer was not issued by the company its directors and its auditors have no duty of care under company law then it would appear to contradict the directors' statement to which I have drawn attention, and to release the Bank of England and tha most prestigious advisers who are named in the offer from such requirements. As the offer was made on behalf of HM Treasury it seems at least politically ill-advised to disclose fictitious balance sheets only.

Mr Wedgbury reflects upon "other offerings of securities ... where full information regarding the company concerned is available in the market." In this instance I am writing about a specific situation when, so far as I know, the offer document was first published to the public on Sunday, September 18. I wrote next day and received a full set of accounts on September 22. At a glance I saw the company's net assets at the end of 1982 were £3,135m compared with the group figure of £8,646m given in the document.

At the root of my disquiet is the practice which is emerging in offers by various companies —for example, at random, BET/Rediffusion and Atlantic Computers — where sale particulars exclude the balance sheet of the issuing company. The fact is there are enormous differences between assets in an individual company's accounts and in its fictitious, consolidated accounts. So many consolidated accounts state that umpteen millions of pounds have been written off for goodwill when the item has not been written off in any individual company. This deception is now required within the provisions of the Companies Act 1981 — I think the lawmakers did not understand the economic consequences of their actions. This is why I say the issuing company's balance sheet should always be given in offer documents and why it is so necessary tha offer for BP shares must not assume an authority in precedent, by whatever yardstick.

Colin Perry.
The Pound,
Church Road, Quenington,
Cirencester, Glos.

Policy for roads in England

From the Chairman, Highways Committee, West Midlands County Council.

Sir,—The article by your Transport Correspondent on the White Paper (September 28) needs to be read in the context of what is actually happening in metropolitan counties such as the West Midlands.

Since 1974 metropolitan counties have been responsible for all roads in their areas and because the county council is also the passenger transport authority a considerable degree of integration of road and public transport planning and provision has been achieved. Greater London Council, which was established under different legislation, is highway authority for metropolitan roads only while the majority of roads in London are looked after by the London boroughs as highway authorities in their own right. It follows that the process of integration will not have been as straightforward in the GLC as it has been in the metropolitan counties.

In terms of achievement my county has consistently achieved government targets since restrictions on capital expenditure were introduced for 1981/82, as the following figures for the transport block demonstrate:

	Allocation received £m	Expenditure achieved £m
1981-82	20.4	20.2
1982-83	27.9	31.6
1983-84	39.4	40.0 (projected)

In all, some £70m has been spent on capital road schemes in the past four years, and we expect to spend over £30m in 1983-84. But these levels of spending need to be increased still further if we are to tackle the chronic problems of areas like the Black Country, and this is why the council has shown a willingness to consider the use of private-sector finance for major initiatives such as the Black Country route.

The Government is right to place greater emphasis on urban road needs and to look for decisive action to that end, but it seems an odd way of proceeding to abolish the agencies that are best placed to produce the desired result.

(Cllr) L. A. Clark.
County Hall, Lancaster Circus,
Birmingham.

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Terry Byland on Wall Street

Electricity stocks in limelight

A POWERFUL upsurge in U.S. electrical utility stocks over the past six trading sessions has caught Wall Street by surprise – eveo those analysts who had been recommending the stocks since earlier in the summer.

There was some profit-taking on Friday but this still left the Dow Jones utility average, made up of 15 stocks weighted towards electrical rather than natural gas suppliers, at its highest level since November 1968.

On a day on which IBM and the other stars were in sparkling form, Allegheny Power System, a supplier of electricity in Pennsylvania, did well to feature in the list of most active stocks.

The off-the-cuff reason for the surge in utility stocks is that they are what Wall Street calls "an interest rate play." Traditionally they have been heavy borrowers in the capital markets whose earnings have been unable to keep up with inflation. Now, with U.S. long-term interest rates and inflatioo beginning to fall, the sector's earnings can be expected to rise.

The attractions of the stocks have been enhanced by their relatively poor performance in the first year of the bull market. Now that the U.S. industrial recovery is well established, utility companies should see demand rise strongly. Allegheny Power, for example, sells more than 70 per cent of its output to industrial and commercial customers.

But the suddenness of the upturn in stock prices suggests that Wall Street has identified more specific factors justifying a re-rating for the sector.

Mr Barry Abramson, senior analyst on the industry for Merrill Lynch Capital Markets, pinpoints the future construction and therefore financing needs of the industry as the major factor.

Construction expenditure is a significant factor on earnings, and Mr Abramson comments that the heavy construction programme of the past decade means that such expenditures are oow about to decline.

A survey by the Edison Electric Institute shows that constructioo outlays for the industry, including the natural gas producers, will peak at $30.1bn, this year and then decline to settle in the $25bo to $26bn range until the end of the decade.

Mr Raymond Moore of E F Hutton estimates that the utility companies will be able to finance an increasing percentage of this reduced capital expenditure from their own resources and without needing to go to the capital markets. He forecasts that net funds available in company balance sheets are about to rise sharply from $8bn this year to $10.2bn oext year and $18.7bn by 1987.

Cash flows at these levels would have considerable impact on utility *companies' earnings. Moreover this* relative freedom from any need to raise debt would offer an answer to ooe of Wall Street's underlying doubts on share prices.

Friday's modest dip in utility stocks followed suggestions from some analysts that a spate of new share issues from the major companies would hurt stock prices later this year and next.

But the E F Hutton analysts believe that many companies could be in a position to buy stock in by 1987, with common stock financing disappearing from the scene for a while. Merrill thinks that only about half *of the top 21 companies have plans* for share issues in the near term.

Both firms urge more selective buying of utility stocks with more attentioo paid to companies with low construction needs and limited dependence on nuclear powered plants, which could still face public and legislative opposition.

The best stocks, measured by these criteria, return yields of 8 to 10 per cent at present, against just over 11 per cent on the long bond. Unexciting perhaps, but these same companies, which include Florida P and L, Allegheny Power, Duke Power and Pennsylvania P and L, sell at *only seven or eight times earnings*, which looks cheap in view of the likelihood of higher profits and dividends next year.

By contrast, Long Island Lighting, which has run into problems in obtaining safety approval for its nuclear plant just off Manhattan, tempts investors with a 12 per cent yield but sells at only six times earnings.

The lesson urged by the analysts is that the interest rate play may not be the only factor where electrical utilities are concerned.

Better to concentrate on good quality stocks whose earrings and dividends – and stock prices – could rocket as profits rise and financing needs fall, than simply to buy the sector and sit back and wait for inflation to fall.

Iraq waits for French jets to back oil threat

BY DAVID MARSH IN PARIS AND REGINALD DALE IN WASHINGTON

IRAQ, which is now expected to receive delivery of five French advanced jet fighters, yesterday said it would block Iranian oil shipments unless it is allowed to export its own oil through Gulf waters within striking distance of Tehran's forces.

The warning follows France's apparent decision to deliver five Super-Etendards capable of carrying Exocet missiles. The aircraft were yesterday believed to be on their way to Baghdad, the capital of Iraq, for possible immediate use in the two countries' three-year war.

Mr Tariq Aziz, Iraq's Foreign Minister, said in e newspaper inter*view that* Iraq would not allow "this freak situation to continue any longer." Iraq's oil terminals on the Gulf have been out of action since the start of the war.

The Paris Government was yesterday maintaining silence on the affair. Other Western governments fear that the move – the fulfilment of a controversial weapons contract agreed in the early summer – could spark off Iranian retaliation against western oil tankers in a further escalatioo of the three-year-old Gulf war.

President François Mitterrand agreed last month to hold up delivery of the *planes, originally* scheduled to leave France in mid-September.

This was partly to counter criticism from governments, and oil companies in the U.S. and Britain. They fear that the Super-Etendards capable of carrying the Exocet anti-ship missile, could be used against the Iranian oil terminal at Kharg Island, which could in turn spur Tehran to close the Gulf to western oil fleets.

According to the French national news agency, AFP, the planes took off on Friday from the French air and oavy base of Landivisiau in north west France, where Iraqi pilots and technicians have been training for several months.

French Government and military officials refused to confirm or deny the start of deliveries. M Charles Hernu, the Defence Minister, declined to comment, saying only that the affair should be referred to "in the conditional."

Iraq was reported to have told the Reagan Administration in recent weeks that it intended to use the aircraft to bring the war to e head. The Iraqis were running out of time and believed that they needed to precipitate an end to the war, U.S. officials said at the weekend.

While some Washington experts believe that Iraq's main aim is to increase pressure oo Iran to end the war by merely threatening to use the Super-Etendards, the Administration has tended to take the view that Iraq is serious about the attacks. It was not known, however, what, if any, strings Paris has attached to the aircraft's use.

At the *end of last month* the State Department reiterated earlier warnings that the U.S. would "view with grave concern" any attempt to interfere with commercial traffic in the Gulf.

Washington has so far failed in its search for ways of seriously influencing the course of the war – although a U.S. aircraft carrier battle group was yesterday reported to be *heading for Indian ocean waters* outside the Gulf.

Mystery yesterday surrounded the whereabouts of the planes. The Super-Etendards, manned initially by French pilots, were thought to have been flown to a base in southern France in preparation for their final delivery.

It was not clear, however, whether the planes would be flown directly to Baghdad – an operation which would require stops or mid-air refuelling on the way – or whether they would be dismantled and shipped,

This latter option, which was earlier considered a strong possibility, would mean that the fighters would oot become operational for several weeks.

The planes were originally built for the inclusion in the large Super-Etendard contingent used by the French navy. They are being "loaned" to the Iraqi Government under a mysterious agreement which became public in June but which has never been officially confirmed in Paris.

France has already supplied Baghdad with Mirage F1 jets, tanks Exocet missiles, anti-tank weaponry and helicopters. The Tehran *Government, which appears* to have given support to Armenian groups responsible for recent terrorist attacks in France, has threatened reprisals against France if the Super-Etendard deal went through.

The Super-Etendard equipped with Exocet missiles became well known through its use by Argentine forces against tha British Royal Navy in last year's Falkland war.

Mugabe steps up threat of farm seizures if UK aid withdrawn

BY OUR HARARE CORRESPONDENT

MR ROBERT MUGABE, the Zimbabwe Prime Minister, has again warned the UK Government that it will expropriate white-owned farmland if British aid is withdrawn.

Speaking at a party rally at the weekend, Mr Mugabe said his government would not tax its own people in order to meet its plans for buying back land from what he called "British settlers."

If Mrs Margaret Thatcher were to cancel *British aid in retaliation* for Zimbabwe's cootinued detention of three white Air Force officers – previously acquitted of charges of treason – the land would be seized without compensation.

At independence 3½ years ago, the British government provided £30m ($44.7m) to purchase underused white-owned commercial farmland and resettle peasant producers. To date, an estimated 30,000 families have been resettled as part of a programme to resettle 162,000 familes by mid-1985. In the last year, the programme has been substantially constrained by lack of back-up finance from Zimbabwe

Mr Mugabe claimed that Mrs Thatcher no longer wanted to continue with the aid programme. He was sharply critical of the UK Government's appeals for the release of the three white Air Force officers, saying that British *Governments* in the past had ignored the plight of black nationalist detainees in the former colony of Rhodesia, and that Britain was doing nothing to help political detainees in South Africa.

British officials in Harare emphasise that the UK has no plans to cancel its Zimbabwe aid programme, pointing out that Britain is the second largest donor after the U.S.

However, it is evident that Britain would like to restructure future aid to Zimbabwe away from the present land resettlement programme, placing greater emphasise on manpower training programmes, and commodity aid schemes.

In any event, British aid to Zimbabwe stretches far beyond the land resettlement programme. It includes the provision of training officers in tax collection, in customs, in education, local government and statistics as well as the British Army training force which has been in Zimbabwe since 1980 to help train the new Zimbabwe national army.

The view in business quarters is that Mr Mugabe's strong attacks on Britain and the threat to expropriate land if aid is withdrawn, will jeopardise the country's efforts to attract foreign investment.

UK's new attack on spending

Continued from Page 1

cutting back announced plans for 1985-86.

However, in the spending plans for 1986-87, now being discussed for the first time, the Government will have several radical options open to it.

The most important of these would be to abandon or modify its commitment to Nato to increase defence spending by 3 per cent a year in "real" terms up to 1985. It seems unlikely that any change would be made before that date, but a decision in principle must now be made *for the years beyond.*

Since defence costs have been rising by about 2 percentage points a year faster than the general inflation rate, the £16bn defence budget has been rising at about 5 per cent a year in "cost terms" in recent years. Cost terms are spending totals after allowing for the general inflation rate. They represent the cost to taxpayers rather than the volume of service provided.

One option now being put forward by the Treasury would be to redefine the Nato commitment in "cost terms" instead of the present "volume terms," which broadly measures the number of ships, tanks, aircraft and men.

This change would put the emphasis on what Britain could afford while still maintaining e commitment to raise the total year by year. A refusal to allow the Defence Department any allowance for an increase in relative costs after next year could save some £750m in the defence budget for 1986-87.

However, the Defence Department's bid for next year's spending is still some £300m over the £17.3bn target agreed in March. The department is also unhappy about the proposed total for 1985-86, which is only 8 per cent more than the 1984-85 total in cash terms. This would allow only 3 per cent for rising costs, if the Nato commitment were to be continued.

A more radical option to be discussed by ministers would be to abandon the Nato commitment after 1985 and to hold defence spending constant in real terms thereafter. This could save around £1bn a year in cash from 1986-87 onwards.

The Cabinet will also be asked to decide in principle whether it is prepared to raise some social security and other benefits by less than the inflation rate from November 1984.

The Treasury needs a ruling on this before it can make a final decision about the Social Security budget which would otherwise reach about £39.5bn by 1986-87.

About half this total is accounted for by retirement, widows' and invalidity pensions which the Government is pledged to raise in line with inflation. However, unemployment benefits, short term supplementary benefits and the child allowance will together cost about £11.4bn in 1987.

The toughest decision of all will be about the future of the health service. Present government plans allow for scarcely any increase in provision in real terms up to 1986.

The Health Department is currently mounting a stong argument against the Treasury's effort to restrict the increase in its budget for next year to 5.3 per cent, which would give it a total of £15.4bn.

The department says it needs at least 1 to 1½ per cent more than the expected inflation rate just to maintain its standards as the population gets older and medical science improves.

World Weather

		°C	°F			°C	°F			°C	°F			°C	°F
Ajaccio	F	22	72	Dubrovnik	F	22	72	Malaga	F	25	77	Salzburg	R	12	54
Akrotiri	S	28	82	Faro	S	26	79	Malta	F	26	79	Seoul	S	22	72
Algiers	S	27	81	Florence	F	23	73	Manila	S	33	91	Singapore	S	32	90
Amsterdam	F	14	57	Frankfurt	F	14	57	Miami	C	29	84	Stockholm	C	5	41
Athens	S	24	75	Funchal	F	25	77	Milan	S	23	73	Strasbourg	C	13	55
Bahrain	S	29	84	Geneva	C	14	57	Moscow	C	10	50	Sydney	S	27	81
Bangkok	S	32	90	Gibraltar	F	25	77	Munich	R	11	52	Taipei	C	28	82
Barcelona	F	24	75	Guernsey	C	15	59	Nairobi	—	—	—	Tangier	S	27	81
Beirut	S	29	84	Helsinki	F	9	48	Naples	F	21	70	Tehran	—	—	—
Belgrade	S	23	73	H. Kong	C	28	82	New Delhi	C	36	97	Tel Aviv	S	32	90
Berlin	F	11	52	Innsbruck	R	12	54	New York	C	21	70	Tenerife	—	—	—
Biarritz	F	21	70	Inverness	R	9	48	Nice	S	23	73	Tokyo	C	12	70
Blackpool	D	14	57	Istanbul	S	21	70	Oporto	C	10	50	Toronto	C	16	61
Bordeaux	C	19	66	Jersey	C	15	59	Oslo	S	10	50	Tunis	—	—	—
Brussels	C	13	55	Jo'burg	F	13	55	Paris	C	16	61	Valencia	S	26	79
Budapest	C	13	55	Las Palmas	—	—	—	Prague	C	10	50	Venice	F	18	66
B. Aires	R	24	75	Lima	—	—	—	Reykjavik	R	5	41	Vienna	R	11	52
Cairo	S	33	91	Lisbon	S	22	72	Rio de J'o	S	34	93	Warsaw	R	10	50
Cape Town	S	21	70	Locarno	D	19	66	Rome	F	23	73	Zurich	S	10	50
Caracas	C	29	84	London	C	15	59								
Casablanca	S	26	79	Los Angeles	C	25	78								
Copenhagen	F	12	54	Luxembourg	S	15	59								
Corfu	F	24	79	Madrid	S	23	73								
Dublin	C	16	61	Majorca	F	24	75								

Readings at mid-day yesterday:

C–Cloudy D–Drizzle F–Fair Fg–Fog H–Hail R–Rain S–Sun Sl–Sleet Sn–Snow T–Thunder

Move to wind up Carrian

Continued from Page 1

money to Hong Kong property companies.

According to information given last week in the Hong Kong courts, Bumiputra Malaysia Finance (BMF), the bank's Hong Kong subsidiary, lent the Carrian group some HK$4.6bn. Some HK$2bo was said still to be unaccounted for.

Loans were also made by BMF to Eda Investments, which has since gone into liquidation, and to property developer Mr Kevin Hsu. The loans were offered at the height of the colony's speculative property boom

ICI claims major advance in fibre technology

By Anthony Moreton in London

ICI FIBRES has launched a new fibre, called Tactel, which it claims to be the biggest advance in fibre technology since textured polyesters in the early 1960s. Mr John Lister, chairman of the division, claimed at the company's Harrogate headquarter yesterday that ICI had a three-year lead over its competitors since the move had taken them all by surprise.

Tactel is part of the family of polyamide fibres of which the most famous is nylon. "Tactel has given us a new generation of fibres," Mr Lister said. "Development of nylon has stood still for 30 years, but Tactel is a major success for ICI Fibres and is a major opportunity for the European textile industry.

"For years manufacturers have been captivated by polyesters and what we have done is to apply what we know about polyester to the nylon family.

"The result is a yarn with a cotton-like feel which has the aesthetics necessary to appeal to the large and expanding market for leisure-wear clothes.

"Tactel is the most exciting development for years and certainly the most important since the developments in polyester technology about 20 years ago."

The oew fibre has been developed at ICI Fibres' research laboratories in Harrogate over the past three years, and has gone into production at the company's plants in Pontypool in South Wales and Östringen, outside Heidelburg, in West Germany.

Tactel was launched quietly at Leicester at the start of last month, and almost simultaneously at a sports fair in Munich. It was also on show in made-up garments at the big Fabrex show in London last week.

Reaction from buyers is said by the company to be "very good" with "quite significant" orders already received.

The importance of the new fibre is that it is claimed to overcome the aesthetic disadvantages associated with nylon while retaining the better characteristics.

Tactel now gives ICI Fibres a yarn which the weavers can make into garments having a cotton-like look and, because of its properties, into garments where stretch is an important factor.

A fibre for the 21st century, Page 9

Argentine court lifts order to halt debt talks

Continued from Page 1

meeting for today in an attempt to thrash out a common policy on the debt question. The steering committee of banks will meet tomorrow in New York to formulate its own response.

Today's discussion is expected to hinge on a recommendation by a military advisory commissioo that the Government should not finalise arrangements on the rescheduling of some $6bn public sector debt without first consulting the political parties. But the leaders of the Peronist and Radical parties while ruling out a formal repudiation of the debt, have refused to associate themselves with the outgoing mili*tary Government in the debt talks.*

In a document leaked to the press over the weekend, the commission rejects Judge Kramer's argument that rescheduling arrangements violated national sovereignty by giving New York state courts some jurisdiction over payment disputes. However, the Commission implicitly appeals for greater flexibility from the foreign banks by claiming that the high interest rates charged in some of the rescheduling contracts were not justified by the risk.

There is also criticism of e cross default clause in the draft refinancing terms of a $220m debt of Aerolineas Argentinas, the state airline, on the grounds that it forces the future civilian Government to accept a tough austerity programme even though the opposition parties have had no say in the debt talks so far.

The draft was intended as a model agreement to be applied to e further 31 state companies but was held up by Judge Kramer's unprecedented intervention, which had the apparent backing of nationalist military elements. The cross default clause specifies that non-fulfilment on the part of one debtor would apply to all state companies.

Local political observers believe that the split within the junta is potentially the most serious since June last year, when the air force and the navy temporarily withdrew from the junta following General Reynaldo Bignone's appointment as President

THE LEX COLUMN

Traffic lights on Throgmorton St

The 4,000 members of the London Stock Exchange have been treated over the past month to a lobbying campaign which would have done justice to Capitol Hill. Like recalcitrant Congressmen, they have been cajoled to toe the line and vote for measures unanimously recommended by their administration, the Council of the Stock Exchange.

Technically, members will be meeting tomorrow afternoon to vote on constitutional changes which boil down to the question of whether outsiders should have a say in the administration and membership of London's central securities market. This in itself is, or certainly should be, an uncontroversial matter. The need for lay members has long been recognised by other stock markets and, for that matter, by other financial markets in London.

In practice, however, tomorrow's vote will help to determine the future direction of the London Stock Exchange. Members are being asked to underwrite the deal struck in July with the Government and to express their confidence in the *Council* collectively and the exchange's chairman in particular.

Sir Nicholas Goodison and his colleagues look assured of obtaining the necessary 75 per cent majority for the proposed constitutiooal changes. But, to judge from the views being expressed in the City of London last week, many members will be giving their consent with ill grace. In part, their resistance stems from the natural conservatism of a body which finds the present arrangements both remunerative and cosy. A debate which has embraced such broad questions as the national interest may well ap*pear remote* to a *group whose prin*cipal concern has always been its own self-interest.

Some members will undoubtedly be concerned about the detail of the deal itself and the way in which it was struck. Neither the long timetable afforded to the stock exchange for the phasing out of fixed commissions nor the Government's insistence on retaining single capacity looks well judged. Moreover, the role of the Bank of England and Department of Trade and Industry in the exchange's development is still unclear. The distinction between a monitoring and a regulatory authority is not a fine one in the eyes of members.

Some may genuinely feel that their interests would be best served by sending the issue back to the Restrictive Practices Court, which could very well happen if the constitutional proposals were defeated. Others may wish to register a protest against a deal which they believe was struck behind their backs and has since been ineptly presented. Certainly the Council might have made a greater effort to explain the specific repercussions which members may expect from the abolition of fixed commissions, and how these would be handled.

Yet to return to the court now would be utterly disastrous. The envisaged removal of fixed commissions will admittedly create upheavals but there is nothing to be gained by delay. Quite the reverse. Whatever the stock exchange may decide, the London securities market is already moving towards the Wall Street model and, if anything, the momentum has quickened since the deal with the Government was struck.

By keeping the commissions issue oo ice for perhaps another two years, members would only be storing up more trouble for the future. The path recommended by the Council is a hazardous one, but the court might dictate an even less palatable set of rule changes. And by the time they came to be implemented, the central market could already have fragmeoted.

Moreover, it is extremely important for tha stock exchange to stay in favour with the Government. For members to reject a deal which was criticised even on the Tory backbenches as a sell-out to City interests would quite rightly create a storm of public and parliamentary indignation.

The exchange will need govern*ment support in* the future, notably on the question of the EEC rules on securities markets, which pose a direct threat to single capacity. To alienate this Government would make a satisfactory resolution of that issue all the more difficult and would increase the chances that a Government of a different colour might impose oo the stock exchange what it most dreads – a British version of the Securities and Exchange Commission.

Finally, it would be dangerous for members to set out on this path of change in disarray. If a consensus cannot be reached on the first step, what chance is there of successfully tackling the problems of single capacity, investor protection and corporate membership which will most certainly follow? It is therefore of great importance that members not only back their Council tomorrow, but that they do so by an overwhelming majority.

Habitat/Mothercare

Lawyers and estate agents have been working overtime for Sir Terence Conran these last few weeks. The lawyers burned their way through a bucket of midnight oil last week to complete by Friday his purchase of the Richard Shops chain from an impatient Hanson Trust. But it was the paperwork by the property men which must have sealed the deal.

By revaluing Richard Shops' property portfolio upwards from £55m to around £70m, they confirmed the attraction of the £55.5m purchase price paid by the holding company through which Habitat/Mothercare has an immediate 45 per cent stake and the prospect of control as and when it suits. This is likely to be when Richard Shops has achieved a sustained trading profit as distinct from the profits on sale and leaseback property deals about to start figuring prominently in Richard Shops' accounts.

Repayment of the holding company's £26.2m loan from Midland Bank will be a priority. The next consideration will be how to finance a computer installation and refurbishment programme costing perhaps £10m to £12m. The present buoyancy of the retail property sector suggests that this too could be met from further shop sales. The William Timpson chain last week completed the sale of 56 units to three insurance companies for an average yield of 6.5 per cent – and the yield on prime shopping sites is now nearer 3.5 per cent.

None of this is to suggest, though, that the property value of Richard Shops has provided a rationale in itself for Habitat's acquistion. It happens that Habitat has a central design team with time on its hands now that the group has worked its charm on the Now stores, launched a week ago.

This figure, implying pre-tax profits up from £19.3m to perhaps £32m, will owe nothing to the unconsolidated Richard Shops – always assuming the new management earns its entitlement to the planned buy-out of its 4 per cent stake over the next five years, leaving Sir Terence to pick up shares from Morgan Grenfell's holding in his own good time.

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SECTION II – COMPANIES AND MARKETS

FINANCIAL TIMES

Monday October 10 1983

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Swiss give Japanese bigger role

By John Wicks in Zurich

JAPANESE brokers are to be given a greater share of underwriting capacity on the Swiss capital market. This follows the sharp increase in Japanese borrowing in the form of Swiss-franc private placements and long-term bonds.

The big three banks, Union Bank of Switzerland, Swiss Bank Corporation and Credit Suisse, have decided to increase from 15 per cent to 20 per cent the total quota of Japanese banks and brokers in the co-management of private-placement issues.

At the same time, the major bond-market underwriting syndicate, which is headed by the same three banks and which generally accounts for some 70 per cent to 75 per cent of all new long-term issues, is to invite Japanese interests to participate more actively.

Although the so-called "big banks syndicate" has been theoretically open to participants outside the original group of 10 banks and banking associations last year, only cautious use had been made of this ability to list "outsiders" among the underwriters.

It has now been decided to act more positively in this sector, where the participant Japanese have sufficient placing ability or good connections to a borrower. In fact, it appears there has been growing pressure from Japanese borrowers to include their banks and brokers among underwriters.

With regard to the increase to 20 per cent of the private-placement quota the big Swiss banks see this as a "generous gesture" in that it is not fully justified by the Japanese partners' placing ability.

Nevertheless, Swiss bankers are obviously wary of the same sort of development as has happened in Germany, with a Japanese underwriting share of something like 50 per cent.

This latest development is a further move towards liberalisation of the Swiss capital-market underwriting sector.

CREDITOR BANKS EASE TERMS ON A RESCHEDULING PACKAGE

Policy change aids Brazil

BY PETER MONTAGNON, EUROMARKETS CORRESPONDENT, IN LONDON

LAST FRIDAY'S announcement of terms for Brazil's $12bn new loan and rescheduling package from commercial banks may come to be seen as something of a watershed in the international debt crisis.

For the first time creditor banks have agreed to terms more favourable to the borrower than those prevailing beforehand. In Brazil's case the loan margins are being pared by ½ per cent across the board and the final maturity is being extended by one year to nine years. Brazil will have to start repaying the loan after five years instead of the 2½ year grace period that had been standard on Brazilian loans before.

The terms reflect a change in sentiment that first began to crystallise at last month's International Monetary Fund annual meeting. With the endorsement of their central banks, commercial banks have accepted the principle that they too must make some sacrifices in terms of cash-flow and profitability to aid the stricken borrowers.

The Brazilian terms represent a major shift in principle for banks dealing with sovereign borrowers. They are now beginning to apply the notion that a rescheduling must be on realistic terms and not gouge the borrower through excessively high margins.

Such an approach has long characterised corporate restructurings but not country reschedulings. Poland, for example, is paying a higher interest margin for the 10 year maturity on this year's rescheduling (compared with 7½ years in 1982).

In cash terms the saving to Brazil will be rather small. The reduction of ½ per cent on the margin it is paying to reschedule $5.5bn in debts falling due next year will save only $7m a year in cash. Of much more use to its cash flow will be the extension of the grace period for principle repayments to five years from 2½.

For the banks, however, the sacrifice is rather greater, especially when viewed from the perspective of return on capital. Here the fee for the rescheduling comes into play and this is being reduced to 1 per cent from 1½ per cent. Moreover, U.S. banks have had to square the concession with their regulatory authorities who normally insist that a loan is classified specially in their balance sheets when it is rescheduled on terms more favourable than those originally contracted.

The concession is not expected to have much bearing on the marketability of the Brazilian package, which is going to be hard enough anyway – it will involve creditors increasing their medium-term exposure to Brazil by a further 10.5 to 11 per cent. But it does, rather gingerly, break new ground on rescheduling. Other Latin American debtors are expected to look for similar, and possibly greater concessions from their bankers when they come back for new money next year.

The rationale behind such concessions is that it makes little sense for banks to jack up the interest on rescheduled debt through high margins when they themselves are having to finance the bulk of that interest. What has become clearer since the IMF meeting is that the debt crisis will last for several years and that rescue packages must therefore be as plausible and enduring as possible.

In the syndicated loan market, interest last week centred on Southern Europe where Portugal has now secured a 13-bank management group on its forthcoming syndicated loan. Portugal has been waiting for the IMF to endorse its austerity programme before going ahead with this seven-year deal which will bear a margin of ½ per cent over Eurodollar rates of ½ per cent over U.S. prime.

Banks already committed to the management group include Bank of Tokyo, Bankers Trust, Banque Nationale de Paris, Chemical, Citibank, Credit Commercial de France, Gulf International, Industrial Bank of Japan, Lloyds, Manufacturers Hanover, Morgan Guaranty, Standard Chartered and Sumitomo.

In Spain, the electric utility Union Electrica Fenosa is raising a £30m, seven-year credit through Chase Manhattan. This will be the first sterling credit to incorporate a margin option over the UK base rate. Interest will be charged at a ½ per cent margin over interbank rates or 1 per cent over base rate.

The same borrower is raising $30m from banks in the Middle East through Gulf International.

'Fantasy trades' demonstrate desire for quality paper

BY MARY ANN SIEGHART IN LONDON

ABOUT $100m of trades were made last week in the Eurodollar bond market on deals that never existed outside the market's fantasy.

On Wednesday, rumours spread like wildfire: Deutsche Bank was leading deals for the World Bank and Canada, and darlings of the market, IBM and Coca Cola, were about to launch bonds. Precise terms appeared on the Reuter screens, much to Deutsche Bank's horror. As far as it was concerned, there were no deals, let alone terms.

Since the bonds did not exist, the trades were declared null and void. But this wishful thinking just shows how keen the market's appetite is for well-priced paper from good names, preferably with a five or seven-year life.

The appetite was borne out in the success of the seven-year deals from Australia, Farm Credit Corporation of Canada and Nederlandse Gasunie. All are popular names and all traded in the pre-market at discounts of less than 1 per cent, well within their selling concessions.

Similar recognition was given to Dresdner Bank, which issued a novel package of a floating rate note with equity warrants. So bored have investors become with the ubiquitous French issuers that they lapped up this deal despite the fact that it had slightly tighter terms. The stripped bond was still trading at par on Friday, which is very rare for a floater.

But the market is still very selective and will not stand for bad pricing. It gave the thumbs-down to an issue from Rio Tinto-Zinc, the British mining and metals company, which issued a 10-year, 11⅝ per cent bond through Kleinwort, Benson.

The general consensus was that the amount, at $150m, was too big, the coupon too low and the life too long. The bond languished at a discount of about 3 points. Kleinwort, Benson conceded this and reduced the amount the next day to $100m. The discount duly lessened to just over 2 points.

Despite the odd flop, the dollar market still has a very firm undertone. Though interest was concentrated mainly in the primary market last week, which absorbed new issues worth $1.35bn, the secondary market gained ground steadily each day to close about ½ point up on the week.

There was a little nervousness about the money supply figures on Friday, but the panics of a month ago are no longer in evidence

CURRENT INTERNATIONAL BOND ISSUES

Borrowers	Amount m.	Maturity	Av. life years	Coupon %	Price	Lead Manager	Offer yield %
U.S. DOLLARS							
Konishiroku Photo §‡	50	1988	15	4	100	Nomura Intl.	4.000
Mitsui Engineering ¶‡	50	1988	5	7¼	100	Nomura Intl.	7.250
Dresdner Bank †¶‡	400	1993	10	¼	105	Dresdner Bank, Morgan Guaranty	–
Australia ‡	100	1990	7	11¼	100	Deutsche Bank	11.250
Australia ‡	300	1995	12	11½	100	Deutsche Bank	11.500
Australia ‡	100	1998	15	11⅝	100	Deutsche Bank	11.625
Rio Tinto Zinc ‡	100	1993	10	11⅝	100	Kleinwort, Benson	11.625
Farm Credit Corpn. (Canada) ‡	75	1993	10	11⅝	99½	Goldman Sachs, Mgn. Gty., Mgn. Stanley, SBCI	11.712
Ned. Gasunie ‡	75	1990	7	11¼	99¾	Citicorp Intl., ABN	11.304
World Bank ‡	200	1990	7	11¼	100	Deutsche Bank, CSFB	11.250
CAN. DOLLARS							
Avco Canada ‡	35	1988	5	13	100	Kidder Peabody, Salomon Bros., Wood Gundy	13.000
D-MARKS							
World Bank **‡	150	1988	5	8⅛	100	DG Bank	8.125
SWISS FRANCS							
JVC **§‡	100	1988	–	3⅛	100	CS	3.125
Optec Dai-ichi Denko **§‡	30	1988	–	3¼	100	Handelsbank	3.250
Fujitec Co. **§‡	50	1989	–	3¼	100	SBC	3.250
Tokyu Hotel Chain **§‡	20	1988	–	3¼	100	Swiss Volksbank	3.250
Furukawa Co. **¶‡	40	1988	–	4⅛	100	CS	4.125
Hanson Finance ‡	100	1991	–	5¾	100½	Sodite	5.657
IC Industries Fin. §‡	$87.5	1993	–	7½	–	UBS	7.500
Toshiba Ceramics **§‡	50	1989	–	3⅛	100	UBS	3.125
Nichicon Capacitor **§‡	50	1989	–	3⅜	100	UBS	3.375
Canon Electronics **§‡	30	1988	–	3⅛	100	SBC	3.125
CMAC §‡	$54	1991	–	7	–	Bque. Morgan Grenfell en Suisse	7.000
IADB ‡	100	1993	–	6	99½	UBS	6.068
ENEL †‡	50–80	1993	8.65	¼	100	Bque. Gutzwiller Kurz Bungener	–
Mt. Blanc Tunnel Constr. ‡	35	1993	–	6⅜	100	CCF (Suisse)	6.375
Chiyoda Chemical **§	100	1988	–	3⅝	100	CS	*
Teijin **§	50	1989	–	3⅜	100	SBC	*
D'Urban Inc. **§	35	1988	–	3⅜	100	UBS	*
Dainippon Screen Mfg. **§	50	1988	–	3¼	100	SBC	*
Chisso Co **	20	1988	–	6⅜	*	CS	*
K-Line **	70	1991	–	6⅛	*	CS	*
Austr. & N.Z. Bkng. Grp. **‡	60	1988	–	5¾	100	UBS	5.750
Commerzbank Fin. **‡	100	1988	–	5¾	100	UBS	5.750
Kanematsu **§‡	25	1989	–	3¼	100	Banca del Gottardo	3.250
STERLING							
Ireland ‡	50	2008	25	12½	97.268	Country Bk., Hill Samuel, SG Warburg	12.873
Ireland †¤‡	50	1993	10	¼	100	SG Warburg	–
GUILDERS							
World Bank ‡	300	1993	8	8¾	100	ABN	8.750
ECUs							
LTCB ‡	40	1990	7	11⅛	100	Credit Lyonnais, Kredietbank, LTCB, Nippon Europ. Bk.	11.125
Ireland ‡	30	1993	10	11⅝	100	SG Warburg, BIL, BBL	11.625
YEN							
EIB ‡	20bn	1993	9	7.8	99.15	Yamaichi Secs.	8.082

* Not yet priced. ‡ Final terms. † Floating rate note: coupon is Spread over 6-month Libor. § Convertible. ** Placement. ¶ With warrants, a spread over 3-month Libor. ¤ Dual currency issue repayable in dollars. Note: Yields are calculated on AIBD basis.

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Wood Gundy Limited

Banca del Gottardo — Bank of America International Limited — Bank Cantrade Switzerland (C.I.) Limited
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U.S. BONDS

Prices just ahead despite fresh note of caution

THE BOND market began to build up a fair head of steam last week, as confidence flowed in from equities and the foreign exchange market began to anticipate a fall in interest rates.

By Thursday, the 12 per cent Treasury long bond had gained virtually 1¼ points to 105⅞, where it yields 11.32 per cent—a far cry from the 12.24 per cent at which it was standing two months ago. But Friday's ritual money supply figures contained a nasty little surprise in the shape of a $600m increase in M1. With dealers keen on tidying their books before the three-day weekend—today is the Columbus Day holiday—the long bond was knocked back by a little over ½ point to 104⅞.

The credit markets followed a similar pattern, with the three-month Treasury bill rate falling by 22 basis points to 8.52 per cent by Thursday, only to lose a third of the gain on Friday, as the yield pushed up again to 8.60 per cent.

To have finished the week slightly ahead but on a fresh note of caution seems about right for the market at present. Despite Friday's M1 figures, the trend in the monetary news over the past month has been favourable, with the aggregates now well within the Federal Reserve Board's targets.

In addition, softening commodity prices, last week's crack in the gold price, and forecasts that the Federal deficit may decline faster than expected also point to the possibilities of further interest rate cuts.

Yet, as Aubrey Lanston points out, the Fed is by no means home and dry in its delicate task of keeping the economy moving forward and holding inflation in check. Last week's strong retail sales figures show that consumer demand is still extremely buoyant: and the pace of the economic upsurge has been underscored by the unemployment figures, which showed strong September gains.

The market had come to suspect that the Fed was simply sitting tight through September, trying to hold the ship steadily on course. This view was confirmed on Friday by the report of the Federal Open Market Committee on its August proceedings.

On Tuesday the FOMC held another meeting amid speculation that it now has more room to ease. But the performance of the money market has since given nothing away — the Fed gave considerable help through repurchase agreements on Tuesday, but the fund's rate, hovering around 10 per cent at the end of the previous week, remained stubbornly high throughout.

The corporate bond market, in keeping with a pattern of the past few weeks, showed little sign of great vitality, with new issues of straight debt raising only $425m, against $593m in the previous week. It may be that corporate treasurers are hoping for yields to move even further in their favour — prices advanced between ½ and ¾ of a point last week, with yields declining by between 5 and 7 basis points.

On the other hand, corporate cash flow has recovered to such an extent across broad swathes of industry that many companies can now afford to sit back and bide their time—at least until they begin an all-out replenishment of stocks.

Among the new issuers last week were Citicorp, with an offering of $300m of seven-year notes at 12 per cent, and General Telephone of Southwest, which sold $50m of 30-year 12.75 per cent bonds priced to yield 12.85 per cent.

Terry Dodsworth

U.S. INTEREST RATES (%)

	Week to Oct 7	Week to Sept 30
Fed funds wkly aver	10.00	8.04
Three-month CDs	9.10	9.13
Three-month T-bills	8.54	8.70
30-year Treas bond	11.36	11.49
AAA Utility	12.13	12.38
AA Industrial	12.13	12.26

Source: Salomon Bros (estimates).

In the week ended September 28 M1 increased by $600m to $518.3bn.

Insurance provisions keep Baldwin United in red

BY TERRY DODSWORTH IN NEW YORK

DESPITE a sharp reduction in special provisions, Baldwin United, the struggling U.S. financial group, ran up losses of $44.4m net for the second quarter to June, bringing its half-year deficit to $661.7m.

The results compare with net profits of $28.5m in the second quarter of last year and $46.8m in the first six months.

Since then, however, Baldwin has run into massive problems, largely associated with the costs of an aggressive diversification programme. A part of the group recently filed for protection from creditors under Section 11 of the Federal Bankruptcy Laws.

The first-half figures were hit mainly by a $567m charge against potential losses associated with the group's single premium deferred annuity plan and provisions against reserves.

Those special items declined in the second quarter, but the group still faced provisions of almost $29m in order to top up reserves for losses on various projects and income tax liabilities.

The heavy debt burden assumed when Baldwin took over its MGIC investment unit for $1.2bn in 1981 has also taken its toll, with interest and debt expense amounting to $56m in the second quarter.

Only three weeks ago, Baldwin agreed to put MGIC up for sale following a decision by insurance commissioners in three states where the company operates to protect annuity policy holders by placing six of the group's companies in rehabilitation proceedings.

Because of this decision, Baldwin says that the Arkansas and Indiana Insurance Commissioners have effectively gained control of these companies' assets. In future, these assets will be deconsolidated from group financial statements.

Australia may let in foreign banks

BY ALAIN CASS, ASIA EDITOR

SENIOR Australian officials are hinting that the country's Labour government may soon reverse its policy and allow foreign banks to operate in Australia.

Mr Paul Keating, Federal Treasurer, is to receive recommendations on this and other issues related to liberalising the country's protected banking sector within a few weeks. At present a small handful of foreign banks operate limited merchant banking activities.

Mr Keating is expected to recommend to the cabinet that a limited number of foreign banks should be allowed to begin operations in the new year.

The recommendations stem from the report by Sir Keith Campbell issued last year which called for sweeping changes to Australia's financial system.

Officials stress that no decision has been taken yet and there may well be opposition. Since taking office earlier this year, Mr Hawke's administration has taken a hard line on the entry of foreign investment into the country.

It seems unlikely, in any case, that foreign banks would be able to operate outside state capitals. Another constraint on foreign banking operations would be the Hawke Government's determination to resist a wider role in the foreign exchange markets for the Australian dollar.

Ma Bell break-up will not incur tax

By Our New York Staff

THE U.S. tax authorities have ruled that the Bell companies involved in the sweeping break-up of American Telephone and Telegraph will incur virtually no tax liabilities on the transfer of assets and stock between the different companies created by the dismemberment of the group.

According to AT and T, the ruling of the Internal Revenue Service indicates that about 99 per cent of the distribution of regional holding company shares in the divestiture will be tax free to AT and T stockholders.

The one exception to this ruling concerns shares in the Pactel Group, the holding company for Pacific Telephone and Bell of Nevada. Some of the stock in this company was acquired by AT and T in 1982, in a deal qualifying as a taxable merger. The IRS has consequently ruled that some of this stock when distributed to AT and T shareholders will count as dividend income for taxation purposes.

AT and T is contesting this ruling, but described the IRS announcement as "generally good news for our share owners and the company."

Cockerill reshuffle gets marketing spur

BY PAUL CHEESERIGHT IN BRUSSELS

PLANS to restructure Cockerill Sambre, the Belgian state-controlled steel group which is in grave financial trouble, have moved decisively forward with the Government's decision to spend BFr 937.5m ($18m) to buy out private companies marketing some group steel.

The move will enable Cockerill Sambre for the first time to have sole control of its own marketing. Divided marketing had hitherto been costing Cockerill Sambre some BFr 800m a year in lost marketing opportunities.

The deal involves the government and Cockerill taking over the 51 per cent they do not already own in Frère Bourgeois Commerciale and the purchase of some associated merchant interests.

Frère Bourgeois Commerciale is controlled by Mr Albert Frère, once chief of steel operations in the Charleroi area before these operations became part of the merged Cockerill Sambre group.

After the merger the company continued to sell steel from the Charleroi plants, although marketing from the other main area of the group's activities, Liège, was directly in the hands of the Cockerill Sambre management.

The price for Frère Bourgeois Commerciale is some 25 per cent less than that negotiated last year on the basis of a value assessment made by Merrill Lynch and audited by Arthur Andersen.

A unified sales operation was urgently demanded by Mr Jean Gandois, the French specialist advising the government on the restructuring of Cockerill Sambre.

Penn Central in $9m purchase

PENN CENTRAL, the energy, natural resources and property group resurrected from the ashes of the former railroad company, is buying a 29 per cent stake in Canada Southern for $9.4m—in order, it says, to improve its position in negotiating a settlement of legal actions, writes Terry Byland in New York.

The purchase, by a Penn Central subsidiary, CSR Holdings, will be for all the stock in Canada Southern not held by Consolidated Rail Corporation and is dependent on a minimum of 18.7 per cent of the total outstanding shares in Canada Southern being accepted.

INTERNATIONAL APPOINTMENTS

Chief executive at South African Airways

● Mr G. D. "Gert" van der Veer, formerly assistant general manager, operating, of South African Transport Services, is the new chief executive of SOUTH AFRICAN AIRWAYS. He succeeds Mr Frans Swarts, who has retired. Mr van der Veer began his career with South African Transport Services as junior engineer in the electrical department at Cape Town in April 1959.

● Mr Ian Buddell has been appointed senior accounts executive at NATIONAL WESTMINSTER BANK's representative office in San Francisco. He succeeds Mr Mike Hills, who will be returning to the UK. Mr Buddell was a manager in the aerospace section, corporate financial services, international banking division.

● Dr Andor Hefti has been appointed general manager, industrial products, of the Swiss watch-industry group ASUAG, Bienne.

● The board of NEWMONT MINING CORP., New York, has elected Mr James F. Hill, vice-president, corporate relations. He joins Newmont after having served as director, communications, at NL Industries, Inc.

● Mr Wolfgang H. Schwarz has been elected senior vice-president of SECURITY PACIFIC NATIONAL BANK. He will transfer to London from Security Pacific's Los Angeles headquarters. He heads the London-based Europe, Middle East and Africa division of the global financial institutions division, and will be the senior resident for Security Pacific in London.

● Ms Catherine D. Pitner has been appointed manager of operations for SUN OIL TRADING COMPANY. She replaces Mr R. John West III, who was recently appointed vice-president, products trading for Sun Trading.

● Mr Frederick A. Jacobi has been named director of public affairs for COLUMBIA BUSINESS SCHOOL. He will be responsible for coordinating and developing the school's media and public relations programmes.

● MORGAN GUARANTY TRUST COMPANY of New York has appointed Mr Eric Bourdais de Charbonnière as a senior vice-president. He will be responsible for the bank's activities in France, Greece, Italy, Portugal and Spain. He becomes area head two years after being appointed general manager of the Paris office.

● Mr V. William Souveroff has been elected a vice-president of ITT CORPORATION. He continues as group executive of ITT's defence-space group. He had been president and general manager of one of the group's five divisions, ITT Gilfillan in Van Nuys, California.

● Dr Fritz Honegger, former Swiss Minister for Economic Affairs, has joined the board of ELEKTROWATT Zurich. He had been a board member before his appointment to the federal council.

● Mr Kenneth F. Easter, an executive of AT and T Western Electric, has been named vice-president and chief financial officer of AT AND T AND PHILIPS TELECOMMUNICATIONS, the company recently formed by American Telephone and Telegraph of the U.S. and N. V. Philips Gloeilampenfabrieken of the Netherlands. He will report to Mr Alexander C. Stark Jr., president of the new company, at offices in Hilversum, the Netherlands.

● Mr Charles A. Mehos has been elected vice-chairman of AMERICAN BRANDS INCORPORATED. He also continues as chief financial officer. Mr William J. Alley was elected senior vice-president, strategic planning, and Mr Robert J. Rukeyser was elected vice-president, public affairs. Mr Alley will continue as chairman of the board, president and chief executive officer of the Franklin Life Insurance Company, a subsidiary of American Brands.

● Under its restructuring programme, DeWITT & CO INC, Houston, has made the following appointments: Mr Hugh S. Pylant, to executive vice-president, raw materials and aromatics division and a member of the board. Mr Richard G. Dodge, to executive vice-president, olefins, and single client division and a member of the board. Mr Edward R. Sparels, to vice-president, economics, of the petrochemical industry, raw materials and aromatics division. Mr Neil C. Taylor, to vice-president, map division. Ms Deborah E. Baldwin, to co-ordinator, computer services. Mr P. J. Brammer, to director, office services. Ms Barbara A. Lewis, to olefins division analyst. Ms Sharon R. Rafferty, to director, graphics services. Ms Wanda J. Wartenbach, to director, information and special projects. Mr Hugh Tobin, formerly of Gulf Oil Chemicals, will join the company on October 1 as vice-president, petrochemicals North America.

This announcement appears as a matter of record only.

U.S. $100,000,000

Ohio Edison Company

Revolving Credit Facility Due 1990

Funds Provided By

ARAB BANKING CORPORATION (ABC)

THE BANK OF TOKYO TRUST COMPANY — COMMERZBANK Aktiengesellschaft

CREDIT LYONNAIS — THE DAI-ICHI KANGYO BANK

DRESDNER BANK AG (NEW YORK BRANCH) — NATIONAL WESTMINSTER BANK GROUP

IRVING TRUST COMPANY — KREDIETBANK N.V. GRAND CAYMAN BRANCH

THE LONG-TERM CREDIT BANK OF JAPAN Limited — MANUFACTURERS HANOVER TRUST COMPANY

MELLON BANK, N.A. — THE MITSUBISHI BANK, LTD.

THE SANWA BANK Limited — THE SUMITOMO BANK OF CALIFORNIA

SVENSKA HANDELSBANKEN S.A. — SWISS BANK CORPORATION

TORONTO-DOMINION BANK GROUP — WESTPAC BANKING CORPORATION

Agent

IRVING TRUST COMPANY

The above Credit Facility was arranged in connection with an Interest Rate Swap by

MORGAN STANLEY INTERNATIONAL

August 1983

FT INTERNATIONAL BOND SERVICE

U.S. DOLLAR STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Amex O/S Fin. 10¾ 90	100	95	95½	+0⅛	+0⅛	11.29
Bk. of Amer. 8 88 XW	150	*86⅞	87⅛	+0⅛	+0⅛	11.95
Bk. of Tokyo Hd. 11 90	100	95¾	96⅛	−0⅛	+1⅛	11.88
Brit. Col. Hyd. 10¼ 88	200	97⅝	98⅛	+0⅛	+0⅛	10.84
CCCE 11½ 87	100	95⅛	95⅝	+0⅛	+0⅞	12.44
CIBC 11 90	75	93	93¾	−0⅛	+0⅛	12.50
Citicorp O/S 10⅜ 90	100	93	93½	0	+0⅛	11.88
Coca Cola Int. 9⅞ 92	100	93	93½	−0⅛	−0⅛	11.10
Cr. Suisse Bah. 10⅜ 90	150	†97⅛	97⅝	+0⅛	+0⅛	11.03
Credit Suisse 10⅜ 89	100	†100	100⅛	+0⅛	+0½	10.42
Den Norsk Crd. 11⅛ 93	50	94⅛	94⅞	+0⅛	+0⅜	12.20
Du Pont 11¼ 95	150	99¾	100¼	0	+0⅛	11.23
ECSC 11⅞ 90	75	100⅛	100⅝	0	+0⅛	11.77
EDC 10⅜ 88	100	97⅛	98⅛	+0⅛	+0⅛	11.33
EDC 11⅜ 87	100	101⅛	101⅝	+0⅛	+0⅛	11.28
EDF 11⅞ 93	100	93⅞	94⅜	+0⅛	+0⅛	12.17
EEC 11 87	350	99¼	99¾	0	+0⅞	11.14
EIB 10⅜ 93	200	93⅛	93⅞	+0⅛	+0⅞	11.87
EIB 11 91	125	96	96½	0	+0⅛	11.75
Electrolux 10⅞ 90	50	92⅛	92⅝	+0⅛	+0⅛	12.21
Enserch Fin. 11⅜ 93	100	96⅞	97⅜	0	+0⅛	12.17
Fuji Int. Fin. 10⅞ 90	100	†94	94½	0	+0⅛	12.10
Gen. Elec. Credit 9¾ 91	100	92½	93	−0⅛	+0⅛	11.17
GMAC O/S Fin. 10½ 90	200	97	97½	+0⅛	+0⅛	11.10
Honeywell Int. 10⅜ 90	100	98	98½	0	+0⅛	11.11
Ind. Bk. Japan 10⅞ 88	100	98	98½	+0⅛	+0⅛	11.35
Japan Air Lines 10⅞ 88	42	93⅞	94⅜	0	+0⅛	11.75
Japan Air Lines 11 93	75	95⅛	96⅛	0	+0⅛	11.89
J. P. Mrgn. 11⅛ 90 WW	150	98⅛	98⅝	−0⅛	+0⅛	11.58
Levi Strauss Int. 11 90	75	97⅛	97⅝	0	+0⅛	11.50
LTCB 10⅜ 90	100	94⅜	94⅞	+0⅛	+0⅞	11.94
LTCB 12½ 90	85	103¼	103¾	+0⅛	+1	11.74
Merrill Lynch 10⅜ 90	200	96⅜	96⅞	0	+0⅛	11.35
Midland Int. F. 11½ 92	100	98	98½	+0⅛	+0⅛	11.81
Mitsubishi Cpn. 10⅜ 90	100	95	95½	+0⅛	+1⅛	11.54
Mitsubishi Fin. 11⅛ 90	100	97⅛	97⅝	+0⅛	+1⅛	11.91
Nippon Credit 11 90	100	95½	96	+0⅛	+1⅛	11.93
OKB 10 91	100	91⅛	91⅝	−0⅛	+0⅛	11.76
Ontario Hydro 10¼ 90	250	94	94½	+0⅛	+0⅛	11.51
Ontario Hydro 11¼ 89	200	100⅜	100⅞	+0⅛	+0⅛	11.08
Prudential O/S 10¼ 93	100	96⅛	96⅝	0	+0⅛	11.24
Prudential O/S 12⅛ 87	150	104⅛	104⅝	0	0	11.25
Quebec Hydro 11½ 92	100	†97	97½	+0⅛	+0⅛	12.20
Saskatchwn. Pr. 10⅜ 90	125	96⅞	97⅛	+0⅛	+1½	11.40
SNCF 11½ 93	100	97⅛	97⅝	+0⅛	+0⅛	11.85
S. Cal. Edison 10⅜ 90	75	97⅛	97⅝	0	+0⅛	11.05
Sumitomo Fin. 10⅞ 90	100	94⅝	95⅛	+0⅛	+1⅛	12.01
Swiss Bk. Cpn. 10⅜ 90	250	†99⅜	99⅞	+0⅛	+0⅛	10.37
Texaco Capital 9¾ 90	150	94⅝	95⅛	0	0	10.88
UBS 10 88	100	98½	99	+0⅛	+1	10.32
UBS 11 89	190	102⅛	102⅝	+0⅛	+0⅛	10.41
Westpac Int. Fin. 11 90	100	*†93	94	0	0	12.46
World Bank 10⅜ 88	190	97⅛	97⅝	0	+0⅛	11.11
World Bank 10¾ 93	100	95	95½	+0⅛	+0⅛	11.70
World Bank 11⅛ 88	100	99⅛	99⅝	0	+0⅛	11.33
World Bank 11½ 90	150	99⅛	99⅝	−0⅛	+0⅞	11.59
World Bank 12 93	200	100⅝	101⅛	0	+0⅛	11.84

Average price changes... On day +0⅛ on week +0⅛

DEUTSCHE MARK STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Air Canada 7½ 93	100	99⅞	100⅜	+0⅛	+1⅛	7.33
ANAS 8¼ 88	100	99	99½	−0¼	−0¼	8.43
Austria, Rep. 7¾ 88	100	99⅞	100⅜	+0¼	+1¼	7.59
Austria, Rep 8 93	100	101⅜	102⅛	+0⅛	+1¾	7.71
Avon Int. Fin. 7½ 93	100	100⅛	100⅝	−0⅛	+1½	7.43
BFCE 8¼ 90	150	101⅜	102⅛	0	+1⅞	7.88
Comp. T. N. Esp. 8¼ 93	100	96⅜	97⅛	0	+1½	8.73
Deuts. Bk. 3¼ 91 WW	240	107¼	108	0	−0¼	2.63
Deuts. Bank 3¼ 01 XW	240	81⅞	82⅜	−0⅛	+0⅛	6.31
Dresdner Fin. 4 90 WW	250	104	105¼	0	−4⅛	3.22
Dresdner Fin. 4 90 XW	250	83⅞	84⅜	−0¼	+0¼	7.01
ECSC 8 90	100	101⅛	102	0	+1⅛	7.65
EEC 8¼ 93	250	101⅞	102⅜	0	+0⅞	7.90
Eurofima 7½ 90	100	100½	101⅛	+0¼	+1⅞	7.35
Finland Rep. 7½ 88	100	98⅞	99⅜	−0⅛	0	7.72
Int.-Am. Dv. Bk. 7¾ 93	200	95⅞	96⅜	0	+0½	8.35
Int. Standard Elc. 7¾ 93	100	100¼	101¼	0	+1⅛	7.90
Japan Devt. Bk. 7½ 90	100	101⅛	102⅛	+0⅛	+2⅛	7.18
Kobe City 7 93	120	96⅞	97⅜	+0⅛	+1⅛	7.42
LTCB 8 90	100	102⅝	103⅛	0	+1⅛	7.44
Renault Acptnce. 8 90	150	96⅜	96⅞	0	+0⅛	8.26
SOR France 7⅞ 93	100	96⅞	97⅜	+0⅛	+0½	5.31
S. African Tran. 8¼ 90	100	99	99½	−0⅛	+0¼	8.39
Volkswagen Int. 7¼ 93	200	96⅛	96⅞	0	+0⅛	7.47
World Bank 7½ 90	250	97⅝	98⅛	0	+0⅛	7.91
World Bank 7½ 93	300	97⅜	97⅞	0	+1⅛	7.85

Average price changes... On day 0 on week +0½

SWISS FRANC STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Akzo 5¾ 93	100	99	99¼	+0⅛	+0¼	5.74
Bank of Tokyo 8 01	100	102½	103	+0¼	+1½	5.64
Bergen, City of 5¾ 95	40	100	100¼	+0½	+0⅛	5.73
Carls-Tuborg B. 5¾ 93	50	101½	102	−0¼	+0¼	0.49
Denmark 6¼ 91	100	102½	102⅞	−0¼	−0¼	5.96
EDC 5¾ 91	100	100⅛	100⅝	+0¼	+0⅞	0.29
EIB 5¾ 93	100	99	99¼	+0⅛	+0¼	5.87
Ex.-Im. Bk. Jap. 5⅝ 91	100	99	99¼	+0⅛	+0⅛	5.76
Ind. Fd. Finland 6¼ 91	40	101	101⅛	+0⅛	0	6.06
Int.-Am. Dv. Bk. 6⅛ 93	100	100⅛	101	+0⅛	−1⅛	9.00
Japan Dev. Bank 5½ 93	100	98⅜	99	+0¼	+1½	5.90
Japan Dev. Bank 5⅞ 93	100	100¼	101	+0⅛	+1⅛	5.76
Kansai Elec. Pwr. 6 91	100	102½	102⅞	0	−0⅛	6.57
Kawasaki Steel 6¾ 91	100	102	102¼	+0½	+1	5.77
Montreal Urban 5¾ 93	100	101¾	102	+0½	0	5.49
Mount Isa Fin. 6 93	100	103	103½	0	+0⅛	5.57
Nisshin Steel 6¼ 91	100	100	100¼	0	0	6.22
Osterr. Draukraft 6 93	100	102½	102¾	−0¼	+0½	5.64
Osterr. Post 6⅛ 91	100	103	103¼	+0⅛	+0¼	5.61
Quebec Hydro 5½ 93	100	100⅛	100½	0	0	5.41
Sekisui House 6 93	100	101	101¼	+0½	0	5.84
Sumitomo Hvy. I. 6 91	100	99⅞	100¼	0	+0⅛	6.00
Sumitomo M. Ind. 6 91	100	100¼	100¾	−0¼	−0⅛	5.95
Tokyo Elec. Pwr. 5⅞ 91	100	100½	101	0	+0⅞	5.73
Trizec Corpn. 6⅛ 01	100	101⅛	101½	−0⅛	+0⅛	6.01
World Bank 5¾ 93	100	99¼	99½	0	+1⅛	5.71

Average price changes... On day +0⅛ on week +0⅛

YEN STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Australia 8⅛ 92	15	104½	105	0	+0⅛	7.87
EIB 8¼ 92	15	102⅛	102⅝	−0⅛	−0⅛	7.86
Japan Airlines 7⅞ 87	8	†101⅛	102⅛	−0⅛	−0⅛	7.17
New Zealand 7⅞ 89	10	102⅝	102⅝	0	0	7.12
World Bank 8⅛ 92	20	103½	104	−0⅛	−0⅛	7.74

Average price changes... On day −0⅛ on week +0⅛

OTHER STRAIGHTS	Issued	Bid	Offer	Change on day	Change on week	Yield
Farm Credit 12½ 90 C$	75	†98⅛	98⅝	+0⅛	+0⅛	12.58
Norcen 12¾ 93 C$	60	†97⅛	97⅝	+0½	+1⅛	13.22
TD Mt. Cpn. 12½ 88 C$	40	†100⅛	100⅝	+0⅛	+0½	12.35
Quebec Hyd 12¾ 93 C$	50	†99⅛	99⅝	−0⅛	+1⅛	12.86
Quebec Prov. 12 93 C$	50	†99⅛	100	+1½	+0⅛	12.02
Royal Trstco 12½ 88 C$	50	†98⅞	99⅜	−0⅛	+0⅛	12.86
Xerox Canada 12 88 C$	40	†102⅛	102⅝	+0⅛	+0⅛	11.29
EEC 11⅛ 93 ECU	70	100⅛	100⅝	0	−2	11.10
Svenska 11⅛ 91 ECU	40	99⅛	99⅝	0	−0¼	11.48
Algemene Bk. 8⅜ 88 Fl	150	100⅛	101	0	+0⅛	8.53
Bk. Mees Hope 8 88 Fl	75	101	101½	−0¼	−0⅛	8.67
Elect. Supply 8⅜ 88 Fl	75	97⅛	98⅛	−0¼	+0⅛	9.34
PHP 8⅜ 88 Fl	50	100⅛	100⅝	0	−0⅛	8.64
Sw. Ex. Cred. 7⅝ 88 Fl	100	96	96½	+0⅛	0	8.77
World Bank 8 88 Fl	100	102⅛	102⅞	0	+0⅛	0.32
OKB 14 86 FFr	400	100⅛	101⅛	0	0	13.37
Solvay et C. 14⅛ 86 FFr	200	101⅛	102⅛	0	0	13.43
BFCE 11½ 88 £	50	98⅛	98⅝	0	+0⅛	11.90
British Oxyg. 11¾ 91 £	80	100⅛	100⅝	+0⅛	+0⅛	11.62
CEPME 11¼ 95 £	35	†98⅛	99⅛	0	0	11.39
EEC 11⅞ 91 £	50	99⅛	100⅛	+0⅛	0	11.84
Fin. for Ind. 10⅜ 90 £	20	94	94⅜	0	−0⅛	11.74
Fin. for Ind. 12⅛ 88 £	30	103⅛	104⅛	+0⅛	+0⅛	11.20
Finland Rep. 11⅞ 88 £	50	99⅛	99⅞	+0⅛	+0⅞	12.00
F. Mat. Oronj. 12⅛ 92 £	30	102	102⅛	+0⅛	+0⅛	12.17
Gen. Elec. Co. 12⅛ 89 £	50	102⅛	103⅛	−0⅛	−0⅛	11.77
Mort. Bk. Fin. 11½ 88 £	15	97	97⅜	0	−0⅛	12.37
Norsk Hydro 12 90 £	30	102	102⅛	0	+0⅛	11.39
SNCF 11½ 89 £	30	97⅛	98⅛	+0⅛	+0⅞	11.97
Sweden 11⅛ 93 £	50	96⅛	97⅛	+0⅛	+0⅛	11.81
Bw. E. Cred. 11¼ 88 £	30	97⅛	98⅛	+0⅛	+0⅛	11.86
World Bank 11⅛ 88 £	100	95	95⅝	0	+0⅛	11.56
World Bank 11½ 91 £	75	100	100½	0	0	11.29
Euratom 11 93 LuxFr	500	101	102	+0⅛	−0⅛	10.72
Europarat 10⅛ 93 LuxFr	600	102½	103½	−0⅛	−0⅛	10.22

FLOATING RATE NOTES	Spread	Bid	Offer	C.dte	C.cpn	C.yld
BFCE 5⅛ 87	0⅛	99⅞	100⅛	27/1	10⅞	10.88
BFCE 5⅛ 88	0¼	99⅛	99⅞	20/1	10.19	10.20
Caisse Nat. Tels. 5⅛ 90	0¼	99⅜	99½	21/10	9.80	9.62
CCF 5⅛ 90	0¼	99⅜	99⅞	7/10	10.19	10.25
CCF 5⅛ 90	0¼	99⅞	100	24/3	10.19	10.20
CEPME 5¼ 88 WW	0¼	99⅛	100⅛	3/12	10.56	10.57
CEPME 5¼ 92	0⅛	99⅜	100	10/12	10½	10.51
Chemical NY 5¼ 94	‡0¼	100⅛	100⅛	23/12	10	9.93
CNCA 5¼ 95 XW	0¼	99⅜	99⅛	7/12	10	10.06
CNT 5¼ 91	0¼	99	99⅜	6/11	9½	9.33
Credit Agricole 5¼ 97	0¼	99⅜	99⅞	24/3	10.31	10.35
Credit Lyonnais 5¼ 94	0¼	99⅜	99⅝	5/1	10.31	10.35
Credit Lyonnais 5¼ 97	0¼	99⅜	99⅝	1/4	10	10.05
Credit Nat. 5¼ 94	0¼	99⅜	99⅞	8/3	10⅜	10.78
EDF 5¼ 95 XW	0¼	99⅞	100⅛	10/2	11⅜	11.38
EEC 5 90	0¼	99⅞	100⅛	5/7	10.19	10.18
Kansallis Osake 5¼ 92	0⅛	100⅛	100⅝	6/11	9⅛	9.08
Long Term Credit 5¼ 92	0¼	100	100⅛	27/11	9⅜	8.74
J. P. Morgan 5¼ 97	§0⅛	100⅛	101⅛	12/11	10.81	10.70
New Zealand 5⅛ 87	0⅛	100⅛	100⅛	7/10	10.06	10.03
NZ Steel Dev. 5⅛ 92	0⅛	100	100⅛	22/12	10⅛	10.22
Nippon Credit 5¼ 90	0⅛	100⅛	100⅛	10/2	11⅛	11.18
Societe Gen. 5¼ 90 XW	0⅛	99⅜	99⅜	9/11	9⅛	9.18
Societe Generale 5¼ 90	0⅛	99⅞	100	1/3	10.31	10.32
Sweden 5¼ 89	0⅛	100⅛	100⅛	26/2	10.19	10.16
Sweden 5¼ 93	0⅛	100⅛	100⅛	3/2	11.19	11.12

Average price changes... On day 0 on week 0

CONVERTIBLE BONDS	Cnv. date	Cnv. price	Bid	Offer	Chg. day	Prem
Bridgestone Tire 5½ 96	3/82	470	120½	122	+1	8.76
Canon 7 97	7/82	748.2	233¼	235⅛	−0¼	11.12
Daiwa Sec. Co. 5½ 88	10/83	508	97⅛	98⅛	0	1.36
Hitachi Cable 5¼ 96	2/82	515	109⅜	111⅛	+2	2.38
Honda Motor 5¼ 98	6/83	884	120⅛	121⅛	+5⅛	7.18
Honda Motor 5¼ 97	3/83	769.8	138⅛	139⅛	+6⅛	8.30
Kumagai Gumi 6⅛ 97	10/82	400	126⅛	127⅛	−0⅛	−1.61
Kyowa Hakko 6¾ 97	6/82	792	117¼	118⅛	+0¼	11.75
Minebea Co. 5½ 98	5/83	667	139⅛	140⅛	+0¼	2.90
Mitsubishi Elec. 5¼ 98	6/83	396	120⅛	121⅛	+5⅞	4.88
Nippon Electric 5¼ 97	2/82	765.9	182	183⅛	+0⅛	1.67
Nippon Oil Co. 5⅛ 98	4/83	964	130⅛	131⅛	−0⅛	2.57
Nissan Motor 5¼ 98	4/83	770	102⅛	103⅛	+3	12.17
Olympus Optic. 6⅛ 97	12/82	1331	108⅛	110⅛	0	6.90
Orient Finance 5⅛ 97	3/82	827.2	95⅛	97⅛	−0⅛	0.72
Orient Leasing 5⅛ 98	8/83	2680	97⅛	98⅛	+0½	−4.46
Secom 5 98	11/83	2920	121½	123	−0⅛	1.38
Sumitomo Elec. 5½ 87	3/82	577.3	121½	123	e	0.89
Yamaichi Sec. Co. 5 98	8/83	472	95⅛	96⅛	−0⅛	0.23
Yamanouchi Pharm 4 90	10/83	1808	98⅛	100⅛	−0⅛	1.66
NEC Cpn. 3½ 93 SwFr	3/83	987	150	151½	−0⅛	−0.08
Sanyo Elec. 3½ 93 SwFr	5/83	501	107⅛	108⅛	+0⅛	6.75
Konishiroku 6⅛ 88 DM	6/83	615	119⅛	120⅛	+0⅛	1.92
Mitsubishi H. 8 88 DM	2/82	263	116⅛	117⅛	+0⅛	−0.58
Sum Realty 6⅛ 92 DM	2/83	365	129	130	−1⅛	−5.17

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EUROBOND TURNOVER

(nominal value in $m)

	Cedel	Euro-clear
U.S. $ bonds		
Last week	6,799.4	13,445.7
Previous week	6,650.2	11,461.7
Other bonds		
Last week	1,337.2	851.8
Previous week	1,392.2	769.8

* No information available—previous day's price.

† Only one market maker supplied a price.

STRAIGHT BONDS: The yield is the yield to redemption of the mid-price; the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week = Change over price a week earlier.

FLOATING RATE NOTES: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte = Date next coupon becomes effective. Spread = Margin above six-month offered rate (‡ three-month; § above mean rate) for U.S. dollars. C.cpn = The current coupon. C.yld = The current yield.

CONVERTIBLE BONDS: Denominated in dollars unless otherwise indicated. Chg.day = Change on day. Cnv. date = First date for conversion into shares. Cnv. price = Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem = Percentage premium of the current effective price of acquiring shares via the bond over the most recent price of the shares.

The list shows the 200 latest international bonds for which an adequate secondary market exists. The prices over the past week were supplied by: Kredietbank NV; Credit Commercial de France; Credit Lyonnais; Commerzbank AG; Deutsche Bank AG; Westdeutsche Landesbank Girozentrale; Banque Generale du Luxembourg SA; Banque Internationale Luxembourg; Kredietbank Luxembourg; Algemene Bank Nederland NV; Pierson, Heldring and Pierson; Credit Suisse/Swiss Credit Bank; Union Bank of Switzerland; Akroyd and Smithers; Bank of Tokyo International; Blyth, Eastman, Paine, Webber International; Chase Manhattan; Citicorp International Bank; Credit Commercial de France (Securities) London; Daiwa Europe NV; EBC; First Chicago; Goldman Sachs International Corporation; Hambros Bank; IBJ International; Kidder Peabody International; Merrill Lynch; Morgan Stanley International; Nomura International; Orion Royal Bank; Robert Fleming and Co.; Samuel Montagu and Co.; Scandinavian Bank; Societe Generale Strauss Turnbull; Sumitomo Finance International; S. G. Warburg and Co.; Wood Gundy.

Closing prices on October 7

UK COMPANY NEWS

Dutch investment company seeks full London listing

European Assets Trust, an Amsterdam-based investment company advised by Ivory and Sime, the Scottish fund management group, has applied for a full listing on the London Stock Exchange.

Lloyds Bank International is offering for subscription 8,364,500 shares of Fl 1 each in the company at 97p a share, representing 33.4 per cent of the enlarged capital. The company has been quoted on the Dutch Stock Exchange since 1959 and is also applying for the whole of its share capital to be listed in London.

The offer price represents a discount of 13.1 per cent on the adjusted net asset value of 111.68p per share. Unadjusted, the net asset value has increased 63 per cent between December 1980 and September 1983 to 123.18p per share.

The offer is expected to raise about £7.6m net of expenses, which will be used to finance further investments. European Assets Trust specialises in small and medium sized companies in pharmaceuticals, office equipment, computers and electronics in Continental Europe and Scandinavia.

Its portfolio includes a 0.1 per cent stake in Novo Industri of Denmark, a producer of insulin and industrial enzymes. Tha initial purchase cost Fl 411,564 (£93,494) in June 1980 and was valued at the end of September 1983 at Fl 4,987,463 (£1.1m).

Tha total portfolio is valued at £27.9m and includes holdings in companies incorporated in Scandinavia, the Natherlands, France and West Germany, with no more than 20 per cent of total assets in any single concern.

Dividends will be paid in September and June. The interim dividend for the current year ending December was equivalent to Fl 0.1 (2.27p), representing a historic yield of 2.3 per cent on the offer price. However, there will be no final dividend this year and the directors warn that the present rate of distribution may not be maintained, since the trust's prime aim is capital growth.

Tha institutional shareholders, which already hold 62 per cent of the equity, intend to apply for 2,485,000 shares, bringing their stake to 71 per cent. Clients of Phillips & Drew, UK brokers to the issue, intend to apply for the remaining 5,879,500 shares.

Applications will open on Thursday, October 13 and dealings are expected to begin the following Wednesday.

● comment

A discount to net asset value of 13.1 per cent—against a market average in tha mid twenties—reflects the premium attached to Ivory & Sime's fund management expertise and the scarcity value of specialist European investment trusts. The nearest equivalent is the F & C Eurotrust, which is a fraction of European Asset Trust's size, is trading at a 15 per cent discount, and 10 per cent of which is invested in tha UK. So it seems there is a goodly nicha for this offering to fill, yet its marketability is limited by a 71 per cent staka firmly stuck in tha pockets of institutional followers. Meanwhile, the track record looks good and tha 63 per cent growth in net asset value over the past three years appears to be fairly evenly spread across tha portfolio, with the exception of a more than 10-fold leap in the value fo Novo Industri's shares. Ivory points out that the undercapitalisation of many small European companies means that it can expect a wide choice of opportunities to snap up the growth stocks in which European Assets Trust specialises.

Tender values Oxford at £102m

THE FULL prospectus is published today for the offer for sale by tender in high flying Oxford Instruments Group.

Merchant bankers Robert Fleming, together with brokers L. Messel and Henderson Crosthwaite, are offering 8.13m ordinary 5p shares in Oxford at a minimum tender price of 230p putting a price on the whole company of £102m.

Of the money being raised, £9.8m will be used to reduce tha company's bank borrowings including those incurred to buy a new £4.5m factory and provide additional working capital. Tha balance is going to existing shareholders including BOC and Investors in Industry.

The company was founded in 1959 by its current deputy chairman Mr Martin Wood to supply high field magnets for laboratories.

Today the company manufactures high technology products in the fields of scientific, medical and industrial equipment. It is still a leader in the supply of superconducting magnet systems for scientific and medical applications including the NMR whole body scanner. Oxford also produces a ranga of advanced instruments and systems for patient monitoring, biomechanics, materials analysis and for the monitoring and control of industrial processes.

In the years ended March 1979 to 1983 profits have progressed from £846,000 to £3.44m on sales up from £5.48m to £26m.

The directors are forecasting profits for tha current 12 months of £5.75m. They would expect to pay tax of £1.75m on that leaving attributable profits equal to 9.7p per share.

On tha basis of the minimum tender price tha actual earnings multiple is 23.7 rising to 34.3 on a notional fully taxed basis. Tha directors intend to pay a net dividend of 1p for the current year equal to a dividend yield of 0.6 per cent.

● comment

Oxford Instruments will be testing the tender mechanism to the full this week if only because there is no direct comparison on which to base a rating. Its nearest neighbours are typically U.S. based and it may be fair to say that Wall Street has a readier understanding of applied technology issues than London. Yet there is no obvious reasons why this issue should stutter at all, as did Acorn's recent market launch, since OI's principal product appears to be at least five years short of anything like maturity and should grow at a considerable rate through this decade. The group acknowledges that its markets are unpredictable which explains the need to finance a relatively high proportion of current assets, say 40 per cent of turnover, as working capital. OI's development flair has enabled it to sidestep any direct competition with its major customers and should ensure a comfortable cushion against the minimum price.

Mounting cost of C4 cuts into STV profits

FIRST-HALF 1983 taxable profits of Scottish Television dropped from £808,000 to £759,000. Advertising sales, however, rose from £17.27m to £20.23m and sales of programmes and services were ahead at £1.4m, against £1.04m.

The 17 per cent increase in advertising revenua improved the company's share of total ITV income, but was insufficient to cover a rise in costs of £3.28m, of which 60 per cent was attributable to Channel 4 subscription.

Since June advertising revenue has been buoyant, although not yet at a level to fully offset increased costs.

After tax of £395,000, against £412,000, half-yearly earnings per 10p non-voting "A" ordinary share were down from 7.57p to 6.96p. The net interim dividend is unchanged at 2.1p per share —last year's total was 7.35p on pre-tax profits of £1.89m.

The directors say that while Channel 4 has shown encouraging signs of growing popularity in recent months, tha failure of the IBA and Equity to resolve their disagreement over payment for artists in commercials, has contributed to a lower level of advertising sales on Channel 4 than anticipated.

Despite its initial problems, the directors believe that Channel 4 can pay its way and be a valuable part of the ITV service.

This year, the company must meet increases of more than 20 per cent in all those costs arising from being part of tha independent television system. Those under the board's management are being tightly controlled.

BOARD MEETINGS

TODAY

Interims—Alva Investment Trust, Edinburgh Investment Trust, Fothergill and Harvey, Michelin Tyre, Microleasa, Minster Assets, Mendort (Knitting Mills), William Sindall.

Finals—Abingworth, City of Aberdeen Land Association, Glaxo, M. P. Kent Lawtex, S. Lyles.

FUTURE DATES

Interims—	
Gates (Frank G.)	Oct 13
Harrisons and Crosfield	Oct 15
Hawker Siddeley	Oct 19
Helene of London	Oct 12
Hopkinsons	Oct 28
Mowlem (John)	Oct 13
Spirax-Sarco Engineering	Oct 12
Sumner (Francis)	Oct 17
United Parcels	Oct 12
Ward White	Oct 11
Finals—	
Concentric	Nov 21
Oruck Holdings	Oct 13
Low (William)	Oct 20
Pearce (C. H.)	Oct 13
Quest Automation	Oct 19

Another £50m Irish bond issue

BY MARY ANN SIEGHART

IRELAND IS rushing to cash in on the growing demand for sterling investments with the launch of a £50m floating rate bond in the City. This will be the second time in a week that Ireland has tapped the sterling capital markets. Its £50m fixed rate issue was seven times oversubscribed last week.

The sudden surge in popularity of sterling has arisen from a shortage of lending opportunities for foreign banks operating in tha City. Local authorities have been repaying their debt and borrowing more cheaply from the Public Works Loan Board instead.

Added to this, the Bank of England has decided to slow down the growth in the sterling acceptance credit market—the market in short-term trade bills, which has proved especially popular with foreign banks.

It has quietly asked several banks to reduce both their involvement in the acceptance credit market and the proportion of acceptances on their balance sheets.

Already in the past month, the sterling floating rate note market has been re-opened after lying dormant for three years. Societe Nationale des Chemins de Fer, the French railway company, launched a £50m note, which was immediately increased to £75m because demand was so strong. And in the syndicated credit market, Sweden's loan was doubled within a week to £500m because it was so heavily oversubscribed.

Ireland is a natural candidate for the sterling market because of its long-established history of currency diversification. Last week it also tapped the growing bond market in European Currency Units, the EEC's currency basket, for an issue of ECU 30m (£17.4m).

Further move to wind up Chancery Registrars

THE OFFICIAL Receiver has taken further action in his efforts to wind up tha affairs of Chancery Lane Registrars, the group which once provided management and administration services for companies which had placed themselves into voluntary liquidation.

The official receiver sought in tha High Court leave to gain the compulsory winding up of 214 companies, at present in voluntary liquidation, for which Chancery Lane acted.

Tha court, after his application, appointed the official receiver as provisional liquidator of the companies pending hearing of a petition on November 14 for tha winding up of Chancery Lane.

The receiver took the action because he felt that tha voluntary liquidations could not be continued with due regard to tha interests of tha creditors or others in each of the companies affected by the petition.

Chancery Lane Registrars featured in a BBC Radio Checkpoint programme which prompted tha Department of Trade and Industry to seek the appointment of tha official receiver in the courts.

MINING NEWS

Australia may buy Bond stake in Argyle Diamond

BY GEORGE MILLING-STANLEY

THE OWNERSHIP structure of Argyle Diamond Mines, soon to be the biggest diamond producer in the world, could change if the Government of Western Australia is successful in its current negotiations to take an equity stake in the venture.

Mr Brian Burke, Premier of the state of Western Australia, has confirmed that his Government is interested in acquiring the 5 per cent stake in tha A$450m project held by Bond Corporation Holdings, the Perth-based group controlled by Mr Alan Bond.

The Bond group's interest in Argyle is held through Northern Mining, one of the original joint venturers. Bond recently paid Endeavour Resources, a 39-per-cent-owned associate, A$47.6m for control of Northern Mining.

This deal was part of a wider restructuring of Endeavour, which laft the company virtually free of debt, in return for handing over most of its producing properties to Bond.

The partners in the Argyle project, the Rio Tinto-Zinc Group's Australian arm, CRA, with 56.8 per cent, Ashton Mining (38.2 per cent) and Northern Mining (5 per cent), are expected to announce their plans to start work on the main kimberlite Pipe AKI later this week.

Commercial production from tha comparatively high grade alluvial deposits at tha site started in January this year, with output projected at 5m carats a year.

When production from AKI gets under way, probably in 1985, the Argyla project will boost world output of diamonds by about 50 per cent to something like 75m carats a year. The rise in value terms will be considerably lower than this, as the bulk of Argyle stones fall into the cheaper industrial categories, with only about 10 per cent being the higher value gem stones.

Bond Corporation representatives had nothing to say on the matter over the weekend, but a statement is expected in the next week or so.

SECURITY AND PROSPERITY FUND S.A.

SEPRO
Societe Anonyme
(In Voluntary Liquidation)
2, Boulevard Royal, Luxembourg
R.C. Luxembourg B 8453

LIQUIDATORS' NOTICE TO SHAREHOLDERS

In accordance with the resolutions passed at the shareholder's meeting on 30th September 1983, the assets of Sepro have been transferred to Save & Prosper International Growth Fund Ltd. ("IGF") and shares in IGF were issued to Sepro.

The liquidation of Sepro will be carried out by transfer of IGF shares registered form to all Sepro shareholders. In respect of each share in Sepro, a shareholder is entitled to 1.529188 shares in IGF.

Share certificates in IGF will be mailed to holders of shares in Sepro on return of exchange forms and Sepro share certificates to the liquidators at La Motte Chambers, St Helier, Jersey, Channel Islands from whom exchange forms can be requested.

Dated 7th October 1983.

M. J. SERGANT.
G. H. C. HILL.
The Liquidators.

Series 006

U.S.$70,000,000

Short-term guaranteed Notes issued in Series under a U.S.$280,000,000 Note Purchase Facility by

Mount Isa Mines (Coal Finance) Limited

Notice is hereby given that the above Series of Notes issued under a Production Loan and Credit Agreement dated 30th March, 1983, carry an Interest Rate of 9⅞% per annum. Tha Issue Date of the above Series of Notes is 12th October, 1983, and the Maturity Date will be 12th April, 1984. The Euro-clear reference number for this Series is 3852 and the CEDEL reference number is 509612.

Manufacturers Hanover Limited
Issue Agent

10th October, 1983

Guinness Mahon International Fund Ltd. (Guernsey)
PO Box 188, St Peter Port
Guernsey - Tel: 0481 23506

CURRENCY DEPOSIT SHARES
DOLLAR $20.027
STERLING £10.013
YEN Y5,003.976
DEUTSCHEMARK DM50.031
SWISS FRANC SwFr40.003
DAILY DEALING

LADBROKE INDEX
706-713 (−1)
based on FT Index
Tel: 01-493 5261

RECENT ISSUES

RECENT ISSUES

EQUITIES

Issue price p	Amount paid up	Latest Renunc. date	1983 High	1983 Low	Stock	Closing price p	+ or −	Net Div.	Times Covered	Gross Yield	P.E. Ratio
10	F.P.	7/10	24	20½	✠A. & M. Nire 10p	23	.....	b0.1	11.1	[illegible]	14.5
¶¶	F.P.	—	160	105	Assoc. Telecom	106	−1	b2.0	5.1	[illegible]	8.8
¶230	F.P.	—	280	237	Atlantic C'mo'ters 10p	280	+25	b8.25	6.2	1.2	14.6
¶435	200	10/2	220	192	Brit. Petroleum	200	+2	20.25	1.9	6.7	12.1
200	F.P.	—	215	196	††Bryson Oil & Gas 20p	215	+5	—	—	—	—
‖‖	F.P.	—	170	165	✠Cent'l Ind TVN/V 50p	166	−5	—	—	—	33.8
¶105	F.P.	—	109	107	Coin Inds. 10p	107	−1	3.5	2.4	4.4	13.8
§80	F.P.	—	85	78	✠DJ Security Al'rms 10p	85	.....	t2.1	b3.0	3.5	10.5
140	F.P.	4/11	170	157	✠Flextech 10p	158	.....	—	—	—	23.9
60	F.P.	19/10	72	65	✠Freshbake Foods 5p	67	+2	bg1.7	9.7	3.6	11.7
§17½	F.P.	12/8	24	20	✠Gilbert Hse Invs. 10p	21	.....	—	—	—	—
200	F.P.	26/10	220	203	Goring Kerr 10p	220	+9	b5.0	2.1	3.3	21.0
¶125	F.P.	23/9	197	154	Int. Signal & Control A	182	.....	uQ2c	4.0	0.7	55.8
¶¶	F.P.	—	72	55	Ivory & Sime 0.1p	64	+4	u0.25	11.8	0.6	21.7
—	F.P.	11/11	39	31	Lon. Midland Ind'l 'fd	36	+2	—	—	—	—
§63	P.P.	31/10	71	70	✠Mainmet Hldgs 10p	70	.....	—	—	—	74.5
11	F.P.	5/9	37	32	✠Metal Sciences 9½p	36	+1	—	—	—	—
§150	F.P.	4/11	161	156	✠PCT Group 10p	160	.....	b4.8	2.1	4.3	15.0
95	F.P.	12/8	94	87	Park Food 10p	89	+1	u3.0	2.0	4.8	15.1
¶¶	F.P.	—	36	32	P'sonal Assets Tst 12½p	36	.....	—	—	—	—
§111	F.P.	26/8	254	163	✠P'lyt'chnic M'rine 5p	233	.....	ud2.0	1.9	1.2	—
100	F.P.	2/9	85	78	✠Tech. for Bus. 10p	80	.....	b4.2	6.0	7.5	11.1
83	F.P.	15/9	90	85	✠Thermal Scientific	88	+1	b2.3	2.8	3.7	15.8
¶	F.P.	25/9	19	15	Yorks & Lancs Inv. W'ts	17	.....	—	—	—	—

FIXED INTEREST STOCKS

Issue price £	Amount paid up	Latest Renunc. date	1983 High	1983 Low	Stock	Closing price £	+ or −
99.296	£25	29/11	28	22	Allied-Lyons 11¾% Deb 2009	27¼	.....
—	£20	28/10	23¾	18	Bristol 11½% Red. 2008	21¾	.....
96.95	F.P.	21/10	99¾	94⅛	C.C.C. Economic 10¼% Gtd. Ln. 2013	99¼	+⅛
99.75	P.P.	25/11	135¼	105¼	Cigna Overseas Finance 12% Ln. 2008	106¼	+¼
100	F.P.	27/10	104	101	E'tbourne W'rworks 12½pc R.Deb.2004	104	.....
‖	F.P.	21/10	103¼	100	Fleming Am. Inv Tst 7% Cnv Uns Ln 99	102	+1
**	F.P.	20/9	104p	101p	Fuller, Smith & Turner 8% 2nd Cm. Prf	104p	.....
¶100p	25p	9/12	33¼p	28p	LASMO 9⅝% Cum Red Pref	33p	+½
—	—	—	100⅝	100⅛	Nationwide 11¼% Bds 20/8/84	100⅝	.....
—	—	—	100½	99⅞	Do 11% Bds 3/9/84	100½	.....
—	F.P.	28/10	110½p	106p	Oceonics 10¼% Cum. Red. Pref. 1993	110½p	.....
§100	F.P.	7/10	103p	98p	Rockware 7.7% Cum. Cnv. 2nd Pref.	99p	+1
98.679	£25	31/8	28	23½	Trafford Park Est. 11¾% 2007/11	26	.....
97.941	£25	14/10	28¾	23¾	Transport Dev 12⅛% Uns Ln 2008	27¼	.....
99.134	£25	25/10	28¾	23¾	Westland 12⅛% Deb 2008	28¼	.....
¶100	F.P.	17/11	109	101¾	York Waterworks 6.75pc Red. Prf. 1988	101¾	.....

"RIGHTS" OFFERS

Issue price p	Amount paid up	Latest Renunc. date ●	Latest Renunc. date ■	1983 High	1983 Low	Stock	Closing price p	+ or −
92	F.P.	—	28/10	119	104½	Anglo-Indonesian	110	+2
80	F.P.	—	26/11	92	89	Assoc. Paper	92	+2
1250cts	F.P.	—	7/10	801	795	Barlow Rand 10cts	795	.....
1	Nil	—	18/10	4½pm	3¾pm	Bridgend Proc. 'A' Ord. 1p	4pm	.....
25	Nil	—	30/11	4pm	2½pm	C. H. Industrials 10p	2½pm	.....
48	F.P.	—	28/10	48¾	46	Cambrian & Gen. Sec.	47	.....
65	F.P.	—	28/10	68	64	" " Cap. 7½p	67	.....
50	Nil	—	11/11	5¼pm	4pm	✠Coleman Milne 10p	5¼pm	+¼
20cts	Nil	—	—	9½pm	1½pm	Eagle Corp'n. 10cts	6pm	−¼
440	F.P.	—	—	575	502	Exco Int'l. 10p	570	−5
82	F.P.	—	28/10	79	73	✠Floyd Oil 10p	74	.....
83	Nil	—	22/10	10pm	3pm	Garnar Booth	3½pm	.....
40	Nil	—	14/10	64	51	Group Lotus Car 10p	63	.....
17	F.P.	—	28/10	20	19	Helene of London 10p	19	.....
20	Nil	—	18/11	32ppm	29ppm	Inter-City Inv. 20p	30ppm	.....
50	F.P.	—	—	88	70	‡‡Marinex Pet. 10p	70	.....
36	F.P.	—	26/11	46	40½	Munton Bros. 10p	41½	.....
A$2	Nil	—	7/11	75pm	65pm	Nat. Com. Bk Aust. $A1	73pm	+8
80	F.P.	—	21/10	87	80	Nasco Invs.	83	+5
20	F.P.	15/9	21/10	30	24	Parkdale 10p	30	+2
11	Nil	—	25/11	10pm	4pm	✠Parkfield Foundries 5p	10pm	.....
120	F.P.	—	11/11	129	122	Pritchard Servs.	128	.....
95	F.P.	—	14/10	143	128	Steinberg 10p	128	−7
310	F.P.	—	25/10	368	352	Tate & Lyle £1	356	+2
210	Nil	—	11/11	30pm	15pm	Utd. Newspapers	27pm	−1

Renunciation date usually last day for dealing free of stamp duty. b Figures based on prospectus estimates. d Dividend rate paid or payable on part of capital; cover based on dividend on full capital. g Assumed dividend and yield. u Forecast dividend cover based on previous year's earnings. F Dividend and yield based on prospectus or other official estimates for 1983. H Dividend and yield based on prospectus or other official estimates for 1983-84. Q Gross. ‡ Cover allows for conversion of shares not now ranking for dividend or ranking only for restricted dividends. ● Figures or report awaited. § Placing price. p Pence unless otherwise indicated. ¶ Issued by tender. ‖ Offered to holders of ordinary shares as a "rights." ** Issued by way of capitalisation. §§ Reintroduced. ¶¶ Issued in connection with reorganisation merger or take-over. ‖‖ Introduction. □ Issued to former preference holders. ■ Allotment letters (or fully-paid). ● Provisional or partly-paid allotment letters. ✠ With warrants. ‡ Effective issue price after scrip. † Formerly dealt in under special rule. †† Dealt in under Rule 163 (3).

PENDING DIVIDENDS

	Date	Announcement last year
Akroyd & Smithers	Nov 18	Final 10.0
Allied Irish Banks	Nov 9	Interim 4.5
Allnett London Props	Nov 9	Interim 1.0
Amersham Intl	Nov 15	Interim due
Assoc British Foods	Nov 11	Interim 1.5
*ANZ	Nov 21	Final 14 cents
*BSG Intl	Oct 13	Interim 0.15
*Bajam	Oct 12	Final 1.5
*Bowthorpe	Oct 11	Interim 1.673
Brit & Cmnwlth Shipping	Nov 11	Interim 7.0
*British Home Stores	Oct 19	Interim 1.76
Brooke Bond	Oct 19	Final 2.665
*Bryant	Oct 17	Final 3.0
*Coats Patons	Oct 12	Interim 1.4
Davis (Godfrey)	Nov 19	Interim 1.5
De La Rue	Nov 9	Interim 9.9
Electrocompts	Nov 2	Interim 1.0
*Empire Stores	Oct 13	Interim nil
Ferguson Industrial	Nov 15	Interim 2.2
*Gill & Duffus	Oct 26	Interim 3.8
*Glaxo	Oct 10	Final 9.5
Gt Portland Estates	Nov 9	Interim 1.0
*Hambro Life	Oct 6	Interim 4.026
*Hammerson Property	Oct 14	Interim 3.0
*Harrisons and Crosfield	Oct 16	Interim 7.5
*Hawker Siddeley	Oct 19	Interim 3.7
Hepworth (J.)	Nov 2	Final 3.21
*Highland Dist.	Oct 24	Final 1.98
*Ibstock Johnsen	Oct 16	Interim 1.5
*Kwik Save	Nov 17	Final 3.4
Land Securities	Nov 17	Interim 3.0
London Brick	Oct 28	Interim 1.951
London & L'pool Tst.	Nov 16	Interim 1.5
*London and Northern	Oct 19	Interim 1.6
Lucas Inds	Nov 9	Final 6.0
Marks and Spencer	Oct 28	Interim 1.85
*Minster Assets	Oct 10	Interim 1.7
*Mowlem (J.)	Oct 13	Interim 2.1
*MEPC	Nov 30	Final 5.25
National Bk Aust.	Nov 19	Final 12 cents
North British Props.	Nov 3	Final 2.0
*Peachey Prop.	Oct 25	Final 3.0
RIT & Northern	Nov 15	Interim 2.0
Reed Int	Nov 2	Interim 4.0
Rockware	Oct 13	Interim nil
Sainsbury (J.)	Nov 3	Interim 1.9
*Scottish Metro Prop.	Oct 12	Final 2.0
*Senior Eng.	Oct 11	Interim 0.75
Sketchley	Nov 16	Interim 3.6
Smiths Inds	Nov 2	Final 7.0
*Smith St Aubyn	Oct 19	Interim 1.5
Smith (W. H.)	Nov 17	Interim 1.75
*Telephone Rentals	Oct 19	Interim 2.0
Tesco Stores	Nov 17	Interim 1.25
*Time Products	Oct 13	Interim 0.45
Unilever	Nov 19	Interim 9.96
Unilever NV	Nov 19	Int Fl 2.664
*UEI	Oct 14	Interim 1.8
Valor	Nov 17	Interim 0.934
Whitbread	Nov 9	Interim 1.65
Wolseley-Hughes	Nov 2	Final 10.29

* Board meeting intimated. † Rights issue since made. ‡ Tax free. § Scrip issue since made. ¶ Forecast.

CAPITAL & COUNTIES PROPERTY INTERNATIONAL NV

U.S.$25,000,000 9 per cent. Guaranteed Bonds 1988 (the "Bonds")

Notice is hereby given to holders of the Bonds that U.S.$2,500,000 nominal amount of Bonds purchased in the market will be applied at par in satisfaction of the annual redemption instalment for the year to 1st November, 1983.

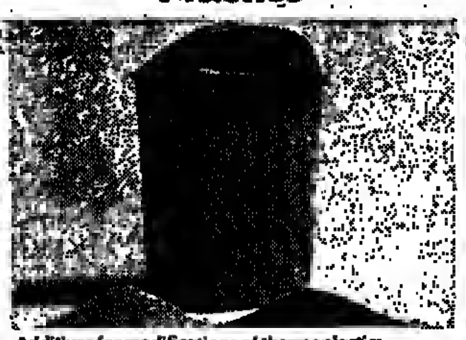
Following such application the nominal amount of Bonds outstanding will be U.S.$12,500,000.

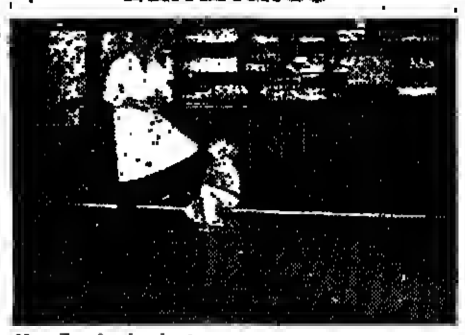
Principal Paying Agent: J. Henry Schroder Wagg & Co. Limited
120 Cheapside, London EC2V 6DS

10th October, 1983.

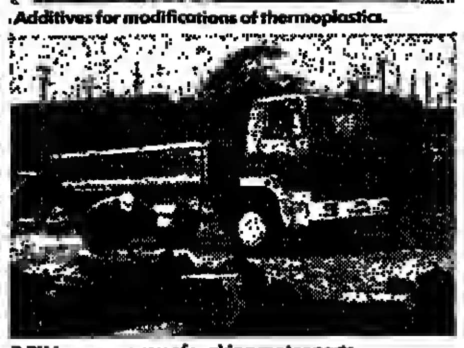
Chemicals · Plastics · Laminates

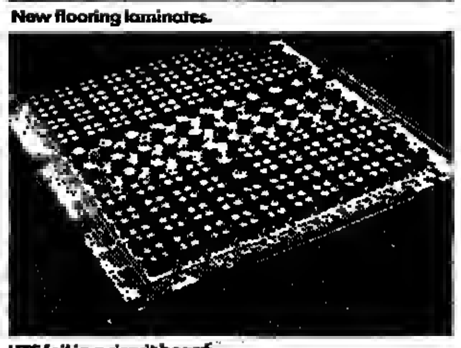
New pharmaceuticals.


Additives for modifications of thermoplastics.


New flooring laminates.


Di-TMP – the new polyalcohol.


R-RIM – a new way of making motor parts.


UTC foil in a circuit board.

Combine financial dynamism with leading-edge technology, and you have the secret of Perstorp's exciting performance.

Perstorp's continuing rapid growth and significantly increased earnings in 1982/3 are a convincing demonstration of the correctness of our *niche strategy* – with its emphasis upon leading-edge technology – and our vigorous internationalisation programme. As late as 1973, Perstorp had few interests outside Sweden. Now we have over 40 companies and divisions all over the world. The majority of these undertakings are characterised by their advanced technology.

Horizons

Our new ventures include bio-chemical research, advanced acoustical engineering, plastic additives, scientific analytical instruments, and pharmaceuticals.

Many of these have been developed by our unique Pernovo operation. Its philosophy of partnership with innovators to bring their ideas to maturity – and to the marketplace – has proved a winning formula.

Old markets – new markets

Nor are we standing still in our established markets.

We have consolidated our already strong international position in the polyalcohols and thermoset moulding compounds markets, and have introduced new sophisticated high-technology products in the speciality chemicals area.

The decorative foils we produce in West Germany are now replacing a whole range of more traditional finishes for furniture.

Our ultra-thin copper laminates – now produced under license by Mitsui in Japan – are being used by Fujitsu for circuit boards in Facon, their super-advanced computer.

In the United Kingdom, our development of continuous-roll laminates has enhanced our competitive position in the furniture and wood products manufacturing industries.

Find out more

For a booklet giving more information about the Perstorp Group's performance in 1982/3 please write to: Perstorp Information, Chancery House, Chancery Lane, London WC2A 1QU.
Telephone: (01) 405 5522 Ext. 274.

PRELIMINARY RESULTS (Unaudited) Financial Year Ending 31st August, 1983 — CORPORATION SEKm.	1982/83	1981/82
Sales	2665	2042
Manufacturing, selling and administrative expenses	−2304	−1800
Operating income	361	242
Cost depreciation	−72	−58
Operating income after depreciation	289	184
Financial expenses	−34	−48
Income after depreciation and financial income and expenses	255	136
Extraordinary expenses	−7	−23
Income before allocations and taxes	248	113
SEK/Share		
Earnings per share (Adjusted for new share	23	13
Dividend per share issue and stock split)	3:00*	2:46

*Proposed by Board of Directors

Quoted on the London Stock Exchange and the Stockholm Bourse.

Perstorp
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3. The latest projection and presentation equipment is readily available.

4. In most cases exhibition areas are available too.

5. Each venue is not far from an international airport (flying time a mere couple of hours from the UK) and TAP Air Portugal are always happy to talk about group arrangements.

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PORTUGAL

Closing prices October 7

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
17¼	6⅛	AAR	.44	2.8	20	64	16¼	15½	15½	-½
52⅜	29½	ACF	1.40	2.8	64	493	50¼	50	50	-⅛
26	14½	AMF	.50	2.9		412	17¼	16⅞	17⅛	
30¼	13⅞	AMR Cp			43	5602	29¼	29⅛	29⅛	-¼
18¼	14½	AMR	pf2.18	12.		80	18⅝	18½	18½	
33⅜	24⅞	AMR	pf2.13	6.6		z106	33¼	32⅞	32¼	-⅛
15⅜	2½	APL			31	117	15¼	14⅞	14⅞	-¼
56	21¼	ARA	2.05	3.9	13	58	52¼	51½	52⅛	+¼
78⅝	43⅞	ASA	3a	5.2		811	59	57½	58¼	+⅛
33¼	9⅛	AVX	s .32	1.1	68	555	27⅞	27⅛	27⅞	+⅛
51½	34¼	AbtLab	1	1.9	23	x2436	u52⅜	51⅞	52⅜	+⅝
30⅜	23⅞	AccoW	n.50	2.0	16	399	25¼	24⅜	24¼	
27½	16⅞	AcmeC	.40	1.7		178	24	23⅝	24	+⅛
14⅜	7⅛	AcmeE	.32b	2.9	278	24	11⅛	10⅞	11⅛	+⅛
22½	6	AdmDg	.04	.2	16	42	u22¾	22½	22⅝	+⅛
17⅞	14⅜	AdaEx	1.73e	9.9		53	17½	17¼	17½	+¼
19⅝	6⅛	AdmMl	.24	1.2	9	26	13	17⅞	17⅞	
18⅝	6⅞	Advest	s.12	.9	7	465	13¼	13⅛	13¼	+½
34⅞	10⅝	AMD			70	7917	33¼	32	32⅞	+⅛
24⅝	12½	Aerflx	s		17	142	18⅝	17⅜	17⅞	-⅛
44⅞	32⅞	AetnLf	2.64	6.8	7	1477	40	38⅞	39	+⅛
40½	14⅞	Ahmns	.60	1.9	13	2252	32⅛	31⅝	31⅞	-⅛
7⅞	2½	Aileen				11	4⅞	4⅝	4⅞	+⅛
51	26⅛	AirPrd	1	2.1	13	677	47⅞	47¼	47½	-⅛
27⅛	12⅞	AirbFrt	.60	2.4	25	15	24¼	24½	24⅛	+½
2½	1½	AlMoa	s		18	139	2	1⅞	2	
33½	27⅛	AlaP	pfA3.92	13.		7	31½	30⅞	30⅞	-½

Continued on Page 25

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AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

Closing prices October 7

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
22⅞	7⅛	AAV	.32	2.2	13	6	14¼	14½	14½	
4¼	2⅞	AICPh				12	3½	3½	3½	
8½	1½	ATI				52	2⅝	2⅜	2½	
12⅝	2	AcmePr			9	6	8½	6½	8¼	
19½	10⅞	AcmU	s.32	2.1	17	11	15⅞	15⅜	15⅝	−⅛
14½	1¼	Action	s		10	195	13¼	12⅝	13¼	+⅞
12	8⅝	Actona	1t	13.	38	90	7¼	7½	7½	−⅛
6½	1⅞	Actn	wt			16	3⅜	3⅜	3⅜	+⅛
8	1⅞	AdmRs				85	4¼	4	4¼	+⅛
30⅞	15⅞	AdRusl	s.10	.4	18	131	24⅝	24⅜	24⅝	+¼
28⅝	14¼	Adobe	.20	1.0	14	93	20⅝	20¼	20¼	−⅛
5⅜	2	AegsCp			15	70	4⅛	4⅛	4⅛	
7	4	Aeronca			8	58	4⅝	4½	4½	−⅛
32½	11	AffHsp	.36	1.5	10	2	23¼	23¼	23¼	+¼
17½	8½	AlnSix			9	41	12¼	12¼	12¼	+⅛
16½	5⅞	AirExp				22	7⅛	7⅛	7⅛	−⅛
6⅞	4⅞	Alamc	n		11	94	5⅝	5½	5½	
23⅞	4½	AlbaW	.15e	1.1	12	34	14⅛	14	14	−⅛
10½	5⅛	AlchaA				12	6⅝	6½	6½	−⅛
28⅞	14⅝	Alphal	s.05	.2	29	169	21½	21	21	+¼
1⅞	⅛	Altec	v			430	⅛	½	⅛	
2⅞	1⅛	Altex				154	2⅛	2¼	2¼	
11-16	1-16	Altex	wt			10	9-10	9-16	9-16	+⅛
57	28½	Alcoa	pf3.75	11.		z350	33½	33½	33½	
32½	11¼	AlzaCp				692	19⅛	19	19⅛	+⅞
29⅞	11½	Amdhl	s.20	1.0	53	357	19⅛	18⅛	19⅛	
25⅝	8½	Amedo	s.08	.4	23	219	18⅞	17¼	18½	+1¼
7½	3½	ABIlt	n .15	2.9	26	20	5¼	5⅛	5½	
5	1⅞	AmCap				18	3	3	3	
[illegible]										

Continued on Page 31

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Continued from Page 24

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
[illegible]										
65½	55⅞	VaE	pf7.72	13.		z80	61¼	61½	61½	−¼
64¼	53	VaEP	pf7.45	12.		z9600	60½	60	60½	+½
27½	15⅛	Vornad			31	56	25⅝	25	25⅜	−⅛
12⅜	6	Vulcinc				28	6½	6¼	6¼	
70	44¼	VulcnM	2.44	3.6	16	168	63⅛	63½	63½	−⅜
		W-W-W								
23⅛	17⅞	WICOR	2.14	9.7	8	16	22⅜	22¼	22¼	−⅛
45⅞	28⅞	Wachov	1.56	3.4	11	48	u45⅞	44⅞	45⅛	+½

Continued on Page 31

Sales figures are unofficial. Yearly highs and lows reflect the previous 52 weeks plus the current week, but not the latest trading day. Where a split or stock dividend amounting to 25 per cent or more has been paid, the year's high-low range and dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual disbursements based on the latest declaration.

a–dividend also extra(s). b–annual rate of dividend plus stock dividend. c–liquidating dividend. cld–called. d–new yearly low. e–dividend declared or paid in preceding 12 months. g–dividend in Canadian funds, subject to 15% non-residence tax. i–dividend declared after split-up or stock dividend. j–dividend paid this year, omitted, deferred, or no action taken at latest dividend meeting. k–dividend declared or paid this year, an accumulative issue with dividends in arrears. n–new issue in the past 52 weeks. The high-low range begins with the start of trading. nd–next day delivery. P/E–price-earnings ratio. r–dividend declared or paid in preceding 12 months, plus stock dividend. s–stock split. Dividends begins with date of split. sls–sales. t–dividend paid in stock in preceding 12 months, estimated cash value on ex-dividend or ex-distribution date. u–new yearly high. v–trading halted. vi–in bankruptcy or receivership or being reorganised under the Bankruptcy Act, or securities assumed by such companies. wd–when distributed. wi–when issued. ww–with warrants. x–ex-dividend or ex-rights. xdis–ex-distribution. xw–without warrants. y–ex-dividend and sales in full. yld–yield. z–sales in full.

Debenhams PLC

Unaudited Results for the 28 weeks to 13th August, 1983

	28 weeks to 13th August 1983	28 weeks to 14th August 1982	52 weeks to 29th January 1983
	£'000	£'000	£'000
Sales (including VAT)	332,115	311,790	676,436
Trading profit	7,673	4,996	26,408
Interest	2,499	3,452	5,498
Trading profit after interest	5,174	1,544	20,910
Other items	—	—	(1,335)
Profit before taxation	5,174	1,544	19,575
Taxation	1,424	1,304	4,308
Profit after taxation	3,750	240	15,267
Minority interests	933	—	601
Preference dividend	43	43	86
Profit attributable to ordinary shareholders	2,774	197	14,580
Earnings per share	2.1p	0.2p	10.9p
Earnings per share on a nil distribution basis	3.0p	0.3p	12.0p

Notes

1. *'Other items' which include profits on disposal of properties, the cost of business closures and other non-trading items, are dealt with in the annual accounts.*
2. *Taxation represents advance corporation tax on dividends, tax on franked investment income and unrecovered overseas taxation.*

The Board is pleased to report an encouraging improvement in the half year results; trading profit before taxation was £5.2 million compared with £1.5 million in the same period during 1982.

Trading conditions were buoyant throughout most of the first half although demand slackened during July and August as a result of the hot weather. Credit sales through Welbeck Finance continued to grow strongly during the period.

The favourable trading trend has now resumed and the Group is in a strong position to benefit from a continuation of present conditions.

The Board has declared a net interim dividend of 2.20p per ordinary share (1982 2.04p), amounting to £2,998,927 (1982 £2,736,125) payable on 2nd December 1983 to ordinary shareholders on the register on 28th October 1983.

APPOINTMENTS

Kwik-Fit financial director

KWIK-FIT (TYRES AND EXHAUSTS) HOLDINGS has appointed Mr Duncan Whyte to the board from November 1 as financial director. He joins from Arthur Andersen and Co. where he was managing partner of the Edinburgh office.

★

Mr Richard Everard has been appointed a director of EVERARDS BREWERY from October 1.

★

Mr W. J. Bartlett, industrial relations director, has been appointed director general of THE BRITISH PAPER AND BOARD INDUSTRY FEDERATION. He succeeds Mr J. H. Adams, who has retired.

★

Mr Sham K. Hussein has been appointed engineering director for PRC ENGINEERING (UK).

★

Mr William McMillan has been appointed director of information services of the UNITED KINGDOM ATOMIC ENERGY AUTHORITY.

★

CANONBURY WINE COMPANY has appointed Mr Thomas Joseph Hedderson as finance director. He was previously a partner in Price Waterhouse. Mr Edward (Ted) Niblock joins the company as sales director. He was previously area sales director with Watney Combe Reid.

★

Mr Alastair Eperoo has been appointed to the board of OGILVY & MATHER PUBLIC RELATIONS.

★

Mr Peter Laister, chief executive of Thorn EMI, will join the board of INCHCAPE on November 1 as a non-executive director.

★

Mr Geoffrey Sheppard has been appointed chairman of ANDUFF EQUIPMENT, a newly-formed company within the Anduff Group. He recently retired as managing director of Duckhams Oil.

BASE LENDING RATES

A.B.N. Bank	9 %	■ Hambros Bank	9 %
Allied Irish Bank	9 %	Heritable & Gen. Trust	9 %
Amro Bank	9 %	■ Hill Samuel §	9 %
Henry Ansbacher	9 %	C. Hoare & Co. †	9 %
Arbuthnot Latham	9 %	Hongkong & Shanghai	9 %
Armco Trust Ltd.	9 %	Kingsnorth Trust Ltd.	10 %
Associates Cap. Corp.	9½%	Knowsley & Co. Ltd.	9½%
Banco de Bilbao	9 %	Lloyds Bank	9 %
Bank Hapoalim BM	9 %	Mallinhall Limited	9 %
BCCI	9 %	Edward Manson & Co.	10½%
Bank of Ireland	9 %	Meghraj and Sons Ltd.	9 %
Bank Leumi (UK) plc	9 %	Midland Bank	9 %
Bank of Cyprus	9 %	■ Morgan Grenfell	9 %
Bank of Scotland Ω	9 %	National Bk. of Kuwait	9 %
Banque Belge Ltd.	9 %	National Girobank	9 %
Banque du Rhone	10 %	National Westminster	9 %
Barclays Bank	9 %	Norwich Gen. Tst.	9 %
Beneficial Trust Ltd.	10 %	R. Raphael & Sons	9 %
Bremar Holdings Ltd.	9 %	P. S. Refson & Co.	9½%
Brit. Bank of Mid. East	9 %	Roxburghe Guarantee	10 %
■ Brown Shipley	9½%	Royal Trust Co. Canada	9 %
CL Bank Nederland	9 %	Standard Chartered ‖	9 %
Canada Perm't Trust	10 %	Trade Dev. Bank	9 %
Castle Court Trust Ltd	9½%	TCB	9 %
Cayzer Ltd.	9 %	Trustee Savings Bank	9 %
Cedar Holdings	10 %	United Bank of Kuwait	9 %
■ Charterhouse Japhet	9 %	United Mizrahi Bank	9 %
Choulartons	10½%	Volkskas Intnl. Ltd.	9 %
Citibank Savings ¶	10½%	Westpac Banking Corp.	9 %
Clydesdale Bank	9 %	Whiteaway Laidlaw	9½%
C. E. Coates	9½%	Williams & Glyn's	9 %
Comm. Bk. of N. East	9 %	Wintrust Secs. Ltd.	9 %
Consolidated Credits	9½%	Yorkshire Bank	9 %
Co-operative Bank *	9 %		
The Cyprus Popular Bk.	9 %		
Dunbar & Co. Ltd.	9 %		
Duncan Lawrie	9 %		
E. T. Trust	9½%		
Exeter Trust Ltd.	10 %		
First Nat. Fin. Corp.	11½%		
First Nat. Secs. Ltd.	11½%		
Robert Fraser	10 %		
Grindlays Bank ‡	9 %		
■ Guinness Mahon	9 %		

■ Members of the Accepting Houses Committee.
* 7-day deposits 5.5%. 1-month 5.75%. Short-term £8,000/12 months 8.1%.
† 7-day deposits on sums of: under £10,000 5¾%, £10,000 up to £50,000 6¼%, £50,000 and over 7¼%.
‡ Call deposits £1,000 and over 5¾%.
‖ 21-day deposits over £1,000 6¼%.
§ Demand deposits 5¼%.
¶ Mortgage base rate.
Ω Money Market Cheque Account—9.05%. Effective annual rate—9.43%.

Associated British Foods new company

ASSOCIATED BRITISH FOODS has merged four ice cream companies. The new company will be known as Allied Foods Ice Cream Company, which incorporates Dairy Tops, Jeffrey's, Kent Coast Ice Cream and Pendletons. Mr Derek Bayliss becomes managing director as from January 1, leaving his position as managing director with Zee Fraiza, another Allied Foods subsidiary. He is succeeded at Zee Fraiza by Mr Brian Bush, formerly with McCains.

CONTRACTS

£21m for Laing

JOHN LAING has an £11m plus contract for work on the final phase of a new youth custody centre in Bedfont Road, Feltham. Laing is responsible for demolition of the former borstal on the site, and erection of a short-term stay accommodation complex which includes a hospital. Work on the contract is expected to take around three years to complete. The finished centre will hold about 850 young offenders, in the combined long stay and short stay units.

Conversion of the former warehouse in the West India Docks, E14, for Limehouse Productions is being carried out under a management contract awarded to Laing Management Contracting. Total value of the complete project is £10m. Part of the London Docklands Development Corporation Enterprise Zone, the warehouse is 130 metres long by 45 metres wide. A feature of the building is a series of "goal-post" frames on the main elevation and entrance area which also provide additional space for offices and star dressing rooms. They are clad in stove enamelled steel panels in black, light blue, dark blue and green. Major structural alterations to the former 1950's built warehouse have involved removing sections of the first and second floors and columns to form the studios.

★

Orders worth over £6m have been won by A. EPSTEIN AND SONS (UK), British subsidiary of Chicago-based A. Epstein companies. Contracts placed include the construction management for the refurbishment of the Britannia Hotel for Inter-Continental Hotels, together with design and build contracts for additional manufacturing facilities for Sweetheart International at Gosport, and a sales office for British Airways, in Central London; together with a major distribution study for United Biscuits and two separate design contracts for Control Data.

★

MARCONI COMMUNICATION SYSTEMS, Chelmsford, has an order worth about £1m from the Hellenic Navy for support equipment for their integrated communication systems.

★

The Edcliff Division of the SYSTRON DONNER CORP. — Thorn EMI's California-based electronics subsidiary — has won the largest individual contract in its 15-year history. Honeywell Defence Systems Division has placed an order worth $3.5m with Edcliff to supply depth pressure transducer systems for use on the Mark 46 torpedo. The depth transducer package is used in conjunction with acoustic sensors and gyroscopes in making up the torpedo autopilot.

★

KENT INDUSTRIAL MEASUREMENTS, part of Brown Boveri Kent, has orders worth over £500,000 to supply on-line chemical analytical instrumentation for 11 power stations (two of them nuclear) in Spain. The equipment will be used to provide continuous on-line analysis of water and steam in boiler and turbine units to ensure plant efficiency.

WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last year's timetable.

TODAY

COMPANY MEETINGS—
AGB Research, London International Press Centre, 76 Shoe Lane, EC, 12.00
Murray Caledonian Inv. Tst., 163 Hope Street, Glasgow, 11.00
Raybeck, Chartered Insurance Institute, 20 Aldermanbury, EC, 11.00
Stirling Group, Stakehill Lane, Bentley Avenue, Middleton, Manchester, 12.00

BOARD MEETINGS—
Finals:
Abingworth
City Aberdeen Land
Glaxo
Kent (M. P.)
Lewbat
Lyles (S.)
Interims:
Alva Inv Tst
Edinburgh Inv Tst
Fothergill and Harvey
Michelin Tyre
Microlease
Minster Assets
Montfort (Knitting Mills)
Sindall (William)

DIVIDEND & INTEREST PAYMENTS—
AAH 3.41p
Amalg. Distilled Prods., 1.75p
Argyll Foods 2.5p
Assctd. British Eng. 0.325p
Black (Peter) 1.75p
Canal-Randolph 16cts.
Cooper Inds 0.5p
Dowty 2.65p
Fleming Enterprise Inv. Tst. 5.2p
Gelfer (A. and J.) 2.7p
Horizon Travel 0.80p
Imperial Chemical Inds. 10p
No-Swift 0.925p
Osprey Assets 1.3p
Scottish Eastern Inv. Tst. 6¾pcDb. 1985-1990 3¼pc
Slough Ests. 1.525p
Tenneco Int Nv 17 pc Gtd Notes 1/10/89 8½pc
Textured Jersey 2.25p
Vibroplant 4.6375p
Wolstwell 1.82p

TOMORROW

COMPANY MEETINGS—
Utd. Packaging, Charing Cross Hotel Strand, W.C., 12.00

BOARD MEETINGS—
Finals:
Anvil Pet
Guildhall Prop
London and Strathclyde Tst
Interims:
Altifund
Bowthorpe
Elec Machine
Energy Services and Elecs
Midland Marts
Senior Eng
VW
Ward White
Waterford Glass

DIVIDEND & INTEREST PAYMENTS—
Islington Con. 12.65pc 2007 6.325pc
Macfarlane Group (Clansman) 1.673p
Maring Inds. 0.81p
Smith and Nephew 1.4p
Sundsvallsbanken Fltg. Rate 1985 $51.67

WEDNESDAY OCTOBER 12

COMPANY MEETINGS—
McKay Secs., 18 Parkside, Knightsbridge, S.W., 12.00
Spear (J. W.) Richard House, Enstone Road, Green Street, Enfield, Middx., 12.00
Star Computer, 64 Gt. Eastern Street, E.C., 10.00
Waring and Gillow, Hallam Tower Hotel, Sheffield 12.00

BOARD MEETINGS—
Finals:
Baism
CPV Computers
Harrison (T. C.)
Pochin's
Scottish Met Prop
Interims:
Ash and Lacy
Cartwright (R.)
Cass
First Charlotte Elecs
Fogarty
Greenbank Ind
Helene of London
London Sumatra Plants
Spirax-Sarco Eng
Steel Bros
Utd Parcels
Walker (J. O.)

DIVIDEND & INTEREST PAYMENTS—
Arrow Chemicals 0.5p
Barclays Bank 11.5p
Copydex 2.225p
Murray Caledonian Inv. Tst. 2.35p
Spear (J. W.) 0.1p
Sunbeam Wolsey 1p. Do. 8pcPf. 2.8p
Utd. Packaging 1.55p
Wholesale Fittings 3.77p
Wilson (Connolly) 0.676p

THURSDAY OCTOBER 13

COMPANY MEETINGS—
Clark (Matthew), Central Conference Centre, 90 Central Street, E.C. 10.00
Dixons, Institute of Directors, 116, Pall Mall, SW, 12.00
Mid Wynd Intnl. Inv. Tst., 16 Overgate, Dundee, 11.00
Stoddard, Glengarnock Works, Elderslie Renfrewshire, 12.00

BOARD MEETINGS—
Finals:
Druck
Highland Elecs
Maunders (John) Con
Pearce (C. H.)
Photo-Me Intnl
Thorpe (F. W.)
Interims:
BSG Intnl
Clive Discount
Coats Patons
Empire Stores (Bradford)
Farnell Elecs
Gates (Frank G.)
James (Maurice) Inds
Mowlem (John)
Office and Elec Machines
Time Prods

DIVIDEND & INTEREST PAYMENTS—
Dale Electric Intnl., 2.8p
Queens Moat House, 0.665p
RBC Intnl. Capital Fund Pty. Pf. 71cts.
Scandinavian Finance BV 1990 $496.8
TI Group 2.5p

FRIDAY OCTOBER 14

COMPANY MEETINGS—
Douglas (Robert M.) Shenstone House, 395, George Road, Erdington, Birmingham, 12.00
Heath (Samuel) Leopold St., Birmingham, 10.00
Jones Stroud, Grange Farm, Toton, Birmingham 12.00
Pearless, Penns Hall Hotel, Walmley, Sutton Coldfield, 12.00
Second Alliance Tst., Meadow House, 64 Reform Street, Dundee 11.30
Wyndham Eng., Brownhills Hotel, 7 Saunders Road, Cardiff, 12.00

BOARD MEETINGS—
Interims:
Allebone
Hammerson Prop Inv and Dev
Lee Cooper
Phoenix (London)
Roberts Adlard
UEI

DIVIDEND & INTEREST PAYMENTS—
Arbuthnot Govt. Secs. Tst., Inc. Pf. 2.75p
Arndale Prop. Tst. 7¾pcLn. 1994-99 3⅞pc
Britoil 3.3p
Brown Shipley Pf. 32p
Caxton's 0.7p
Co. Bas Eurofinance 1991 $246.22
Corah 1.3p
Courts (Furnishers) 2.99p
Heath (Samuel) 20p
Lydenburg Plat. 20cts.
Miss World Grp. 1p
Morgan (J. P.) 92.5cts.
Nat. Westminster Bank 1994 $49.24
Oil and Gas Production 3.75cts.
Royal Bank Scotland 1986 to 1994 10¼pc
Schlumberger 26cts.
Sea Containers 52.5cts.
Star Computer 2.5p
Steatley 4¾pcPf. 1.575p
Stirling Grp. 0.73p
Sutra Grs. 0.75p
Ultramar 6p
Unitec Grp. 12cts.
Warner Ests. 10¼pcPf. 5.375p
Wills (George) 2.5p
Wyndham Eng. 1p

SATURDAY OCTOBER 15

DIVIDEND & INTEREST PAYMENTS—
Allied Irish Banks 1992 $404.92
Bell Canada Enterprises 52cts.
British Assets Tst., 4¾pcPf. 1.575p. Do. 5pcAPf. 1.75p
Douglas (Rbt. M.) 1.375p
Eldridge, Pope 6¼pcLn. 3⅛pc. Do. 7½pc Ln. 3¾pc
Goode Durrant and Murray 3.5pcPf. 0.875p
Manders 5pcPf. 1.75p
Merton 11¼pc 2007 5⅝pc
Southwark and Vauxhall Water 3pcDb 1½pc
Nat. Devpt. 8¾pcLn. 1992-97 4⅜pc
Newcastle-upon-Tyne 9¼pc 1991-93 4⅝pc
North Brit. Props. 9½pcLA. 1996 4¾pc
Occidental Pet. 62.5cts.
Oppenheim 7¼pcDb. 1987-92 3⅝pc
P. H. Industrials 0.5p
Paterson Jenks 11.5pcPf. 5.75p
Quaker Oats 55cts.
Reamore 13pcPf. 1991-92 6.5pc
Richards 4pcPf. 1.4p. Do. 5¾pcPfd. 2.04375p
Scottish Agricultural Sec. Cpn. 7pcDb 1980-83 3½pc
Treasury 5pc 1986-89 2½pc
Watney Mann and Truman 6pcDb 1990-1994 3pc
Yale Catto 1.5p
Zimbabwe Sett. Term. Ann. 1981-88 £30

SUNDAY OCTOBER 16

DIVIDEND & INTEREST PAYMENTS—
Acepsores De Finanzas Sa De CV Short Term Nts. 10¾pc
Swansea 15¾pc 2006 6⅞pc

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Capitalisatn. £000's	Company	Price	Change on week	Gross div. (p)	Yield %	P/E Actual	P/E Fully taxed
5,840	Ass. Brit. Ind. Ord.	132	—	6.4	4.8	7.7	10.1
—	Ass. Brit. Ind. CULS	140	—	10.0	7.2	—	—
4,284	Airsprung Group	74	—	6.1	8.2	21.1	21.1
626	Armitage & Rhodes	21	−1	—	—	—	—
30,171	Bardon Hill	242	—	7.2	3.0	9.9	20.1
1,738	CCL 11pc Conv. Pref.	139	−1	15.7	11.3	—	—
2,861	Cindico Group	181	−3	17.6	9.7	—	—
4,612	Deborah Services	59	+4	6.0	10.2	—	—
8,437	Frank Horsell	147	+3	—	—	6.2	10.1
—	Frank Horsell Pr Ord 87	141	+3	8.7	6.2	8.9	9.7
7,512	Frederick Parker	52	−2	7.1	13.7	3.3	5.2
590	George Blair	32	—	—	—	—	—
2,437	Ind. Precision Castings	60xd	−2	7.3	12.2	16.6	20.7
4,800	Isis Conv. Pref.	200	—	17.1	8.8	—	—
5,313	Jackson Group	105	−1	4.5	4.3	6.5	10.8
28,260	James Burrough	212	—	11.4	5.4	11.7	12.0
1,408	Robert Jenkins	138	+1	20.0	14.5	16.0	10.8
3,540	Scruttons "A"	68	—	5.7	8.3	11.5	8.3
2,440	Torday and Carlisle	100	−5	2.9	2.9	—	—
3,532	Unilock Holdings	22½	−½	1.0	4.4	14.7	21.4
11,347	Walter Alexander	89	−1	6.8	—	—	—
6,161	W. S. Yeates	264	−1	17.1	6.5	4.1	8.4

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—	127,500	25 per cent. convertible cumulative redeemable preference shares of 2½p each	—	127,500
210,000	1,400,000		182,500	1,175,000

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10th October 1983

FINANCIAL TIMES SURVEY

Monday October 10 1983

Defence costs are spiralling so high that even the world's super-powers and a few oil-rich countries are investing in the qualitative improvement of weapons, rather than in larger inventories.
Countries are spending more on defence, but in general are getting less for it, say industry analysts.

Defence Industries

Military spending soars to $800bn

By BRIDGET BLOOM, Defence Correspondent

WORLD MILITARY spending stood at $800bn last year, an increase of some 10 per cent on 1981. From those figures alone, the bystander might be forgiven for believing that all was exceptionally well in the world inhabited by defence industries.

Defence expenditure in both major world alliances has increased substantially over the past five years. Led by the U.S., Nato's defence spending rose by some 11 to 12 per cent in real terms. The Warsaw Pact—with the Soviet Union in the lead—is thought to have spent some 4 to 6 per cent more last year than in 1978.

In other parts of the world there have been even more dramatic increases—10-20 per cent in Latin America, and, with the continuing conflicts between Iran and Iraq and in the Lebanon, 35 per cent in the Middle East. Only in black Africa has spending declined—by 20 per cent.

Yet, while some european defence industry sectors, such as those involved in the production of electronics and communications equipment and guided weapons, are in general very healthy, others, such as warship building, are in the doldrums.

A closer look at the figures, whether for defence budgets or industry profit rates, reveals furthermore, an altogether more chequered picture and this raises questions not only about the ultimate health of defence industries but about the capability of Western governments to maintain rational and viable defences.

According to a recent analysis published in its Military Balance for 1983-4 by the International Institute for Strategic Studies, the defence budgets of most members of both major alliances have actually remained static in real terms over the past few years.

The IISS notes that without the boost of U.S. spending, Nato's military outlays in recent years would have remained at the same level in real terms or have possibly even decreased. It believes that the USSR apart, budgets have not risen in real terms in the Warsaw Pact.

The Institute notes in some countries pressure on defence budgets has already resulted in a "quite marked down turn in inventory." Even in the case of the super-powers and of a few oil rich countries, where defence spending has risen in real terms, the investment has gone into qualitative improvement of weapons systems rather than into larger inventories.

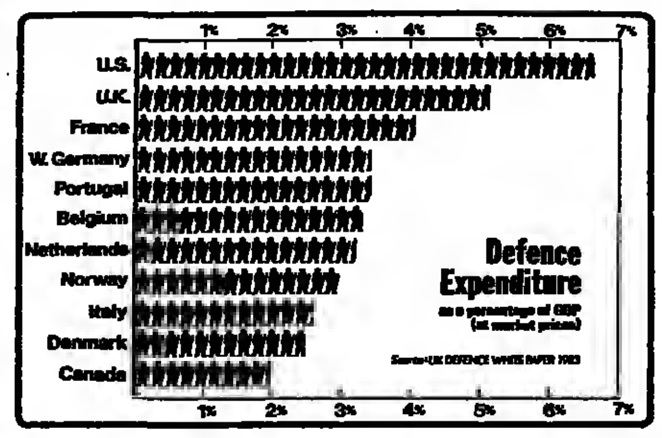
Countries are spending more on defence but in general are getting less for it Dr Robert O'Neill, the IISS director remarked last month, noting a trend of which western defence planners are becoming increasingly aware.

UK situation

Sir John Nott, Britain's former Defence Secretary, has shown that while Britain spent more on defence in real terms in 1980 than it had in 1950—as well as proportionately more of its defence budget on weapons systems — its armed forces actually had less equipment in 1980 than they had 30 years ago. The Royal Navy for example, had 376 warships, including submarines, in 1950 and only 97 in 1980. The Royal Air Force has 1,500 frontline aircraft in 1950 and some 500 now, while the Army today has around 800 tanks against 1,100 in 1950. The trend is similar elsewhere in Nato.

In the 1950s for example, the US was ordering around 3,000 tactical aircraft a year: by the 1970s, this had dropped to some 300.

Today's smaller numbers are partly offset by improvements in the fighting power of modern warships and weapons, but Lord Trenchard, the former minister for defence procurement, still felt able to remark that if the trend continued, the ultimate absurdity would be reached when Britain's yearly naval budget would afford only one warship.



It is easier to describe the reasons for this state of affairs than it is to devise solutions. Since the last world war, key areas of warfare have been revolutionised. Preparing for war is now a much more costly and complex business.

Entirely new technology has been introduced: the jet engine and the guided missile are the most obvious of these new technologies, but there are many others, ranging from satellite communication and reconnaissance at one end of the spectrum and the thermal imaging which allows the infantryman to see at night, and through battle smoke, at the other.

But that is not all, for such technology is constantly being given new twists—torpedoes become guided weapons or the jump-jet concept enables aircraft to take off vertically.

In consequence costs spiral inexorably year by year as the major alliances exploit the latest technology to improve existing weapons systems.

The British defence ministry reckons that the capital production costs of major weapons systems have been rising on average 6 to 8 per cent a year and that this affects at least 60 per cent of the equipment budget. On this basis Britain needs real rises of 3 per cent in its defence budget to begin to show any real growth in defence spending.

The sort of sums involved are those which Western democratic governments find particularly hard to raise in a recession, when social spending is also under threat, but there is little evidence to suggest that that problem would be much easier to tackle with a resumption of real economic growth.

Unfortunately there has been too little concerted effort among western governments to come up with answers to these problems, although governments have sought partial solutions, either nationally or collaboratively, in four main areas.

First, are the sort of practical measures which are now being introduced by Britain's Ministry of Defence to make the procurement of defence equipment more efficient and to cut costs. This involves greater competition in the tendering of contracts and a generally tauter relationship with industry.

It may be other governments will follow the UK lead—more than 80 per cent of contracts let by the West German defence ministry, for example, are still on a "cost-plus" basis, compared to well under 50 per cent in Britain. But, however important such largely national cost cutting measures are, most observers believe that at best they can succeed in lowering the yearly increase in defence costs by only a percentage point or two.

Radical measures

Two categories of more radical measures, both of which have a long history are: much greater standardisation of equipment within Nato: and the multinational production of weapons.

Standardisation seeks primarily to introduce the same, or at least inter-operable, equipment. (All allied armies should be able, for example, to fire the same artillery shells.)

The prime economic objective of multi-national arms production is to achieve longer production runs, lower development and production costs per unit, and thus more equipment, than would be possible on a purely national level.

Most collaborative projects within Nato are far from acheiving these worthy aims, as a recently published, critical study by Dr Keith Hartley shows.* Hartley, is critical for example, of the arrangements for producing the Anglo-German Italian Tornado aircraft the biggest such European project—though he does accept that increasingly in high cost areas like aerospace, collaboration for European countries provides a more economic answer than self-sufficiency and often the only answer to U.S. competition—a point which seems to underline the significant talks on a future European agile fighter which have recently been taking place between the French, German and British governments.

The uncomfortable truth is that, at least for the major European arms producers, any rationalisation of defence production which has a chance of substantially reducing costs to governments involves sacrifices by industry as much as by governments. The most radical measure of all, specialisation, demands for example that in the interests of longer production lines and lower unit costs, each country should specialise in only a few areas of arms manufacture, buying in the rest of its equipment from similarly specialising alliance partners.

There may seem little likelihood of such measures being agreed between Nato governments. Each has industries and the jobs that go with them, that it wants to protect, while each fears the competition of the U.S., Nato's biggest and usually cheapest arms producer.

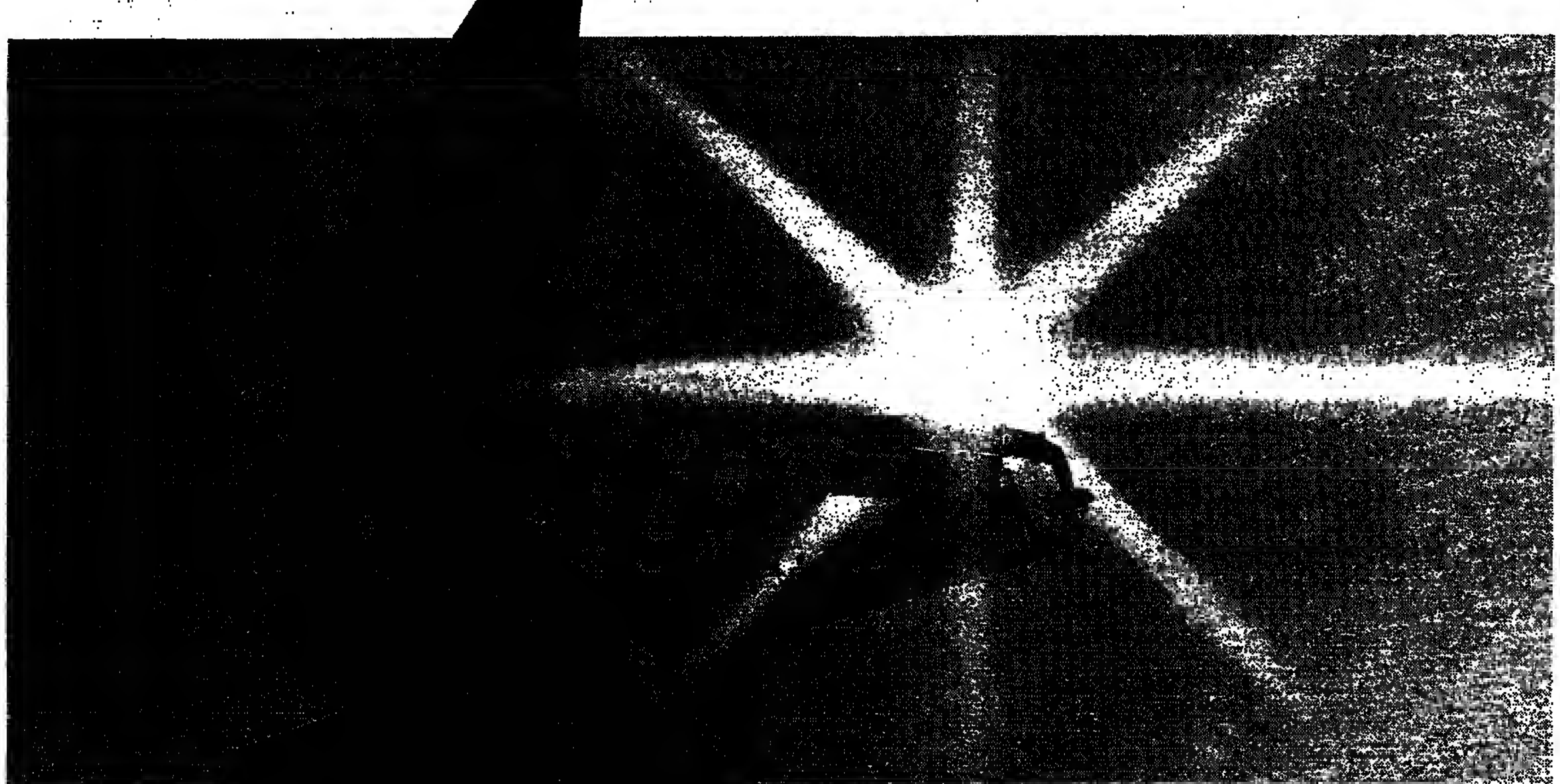
But specialisation is already a fact of life in some smaller Nato countries like the Netherlands, which no longer has an indigeneous military aircraft industry. Britain was "past the point where we can afford a defence industrial base for its own sake," Sir John Nott warned two years ago.

It is unlikely, however, that Britain's defence industries will be alone in facing some tough challenges over the next few years.

Data sources on arms production: See Page IV.

CONTENTS

0600 hours...and all's well.



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PLESSEY

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THE UK: RELATIONS BETWEEN INDUSTRY AND GOVERNMENT

New moves to cut costs and boost efficiency

THE YEAR-BY-YEAR escalation in the cost of defence equipment—estimated by Britain's Ministry of Defence at an annual average of 6-8 per cent on capital production costs—lies at the centre of the problems facing both the MoD and Britain's defence industries.

The problem is by no means unique to Britain, but attempts by the MoD to come to grips with it currently dominate Government-industry relationships.

In the wake of the 1981 defence review, and the disrupting moratorium on payments to industry and other stop-go measures which preceded it, the MoD is introducing a series of measures designed to prune costs and increase efficiency, particularly in the procurement of defence equipment.

They fall into three broad categories: First are those which are aimed at re-ordering the procurement processes so that the armed services are encouraged to order and industry is helped to produce equipments which are simpler, cheaper and more readily exportable.

The key ingredient bere is probably the decision to involve industry in the early stages of the formulation of service requirements.

Mr Geoffrey Pattie, the minister of state in cbarge of defence procurement explains that if, in the past, the RAF wanted a new aircraft, it would formulate its own staff target for the eeroplane, refine thet target into a staff requirement and only then—when the requirement had become a "tablet of stone"—pass it to industry which was then expected to produce it without variation.

As the House of Commons Select Committee on Defence beard in graphic detail in its enquiry into procurement in 1981-82, the system often resulted in over-elaborate and excessively expensive equipment which was produced after long delays, partly because the services changed their specifications so often, and was then found to be unexportable.

The MoD's new policy is to bring industry in at least at the staff target stage—the RAF for example recently sent e draft staff target for a new jet trainer and have done the same to British companies for the next generation of tanks.

Ministers now expect industry's comments to be fully taken into account before the requirement is drawn up and maintain that competitive tending will then be the rule.

However, the MoD is also requiring the services to simplify staff requirements. Under what now is dubbed the cardinal points plan the services are expected to indicate only what it is they require a new weapon system or piece of equipment to do, leaving industry to come up with the precise solution.

The bope is that companies will be able to adapt equipment to the MoD's requirements with a due eye to its export potential rather than to build afresh to what Mr Bernard Rosser, managing director of BAe's Dynamics group terms tho MoD's often "exotic requirements."

The system is intended to cut down over-elaboration, or "gold plating" and to produce equipment with real export potential.

Plessey, competing with bids from GEC-Marconi and five other companies late last month won a cardinal points' tender with e version of its AWS 5 rader already sold to Denmark and Nigeria.

Fixed price

The second category of the MoD's measures has been designed to devolve more responsibility for producing defence equipment on industry: where possible the Government says that it is negotiating fixed price production contracts.

Details are considered commercially confidential but Mr Pattie in a recent interview said that all the mejor production contracts he has dealt with in the last year—all over £50m and several under—beve been on a fixed price basis.

The MoD is also trying to devolve more responsibility on industry by appointing major companies as prime contractors on key projects, making them responsible for letting and managing all sub-contracts.

Along with this has gone some rationalisation of the financial dealings with the bigger companies—so far, for example, around 40 are supplying quarterly cash profiles of their MoD business.

The third area of change involves potentially more radical measures, some of which, such as joint ventures between industry and the MoD, have been partly designed to offset some of the MoD's buge development costs. The EH101 helicopter, a partnership between the British and Italian Governments and Westland and Augusta of Italy to produce a replacement for the Sea King is a case in point.

An attempt is also being made to rationalise the buge R & D costs incurred annually by the MoD. Over the last few years, the MoD's R & D establishments have been reduced in number, while the management of key defence projects like the Stingray torpedo has been given to industry.

Mr Pattie, however, defends the MoD's record against its many critics by noting that of the £2bn or so spent on R & D only some £300m goes on research, which includes maintaining research establishments.

He argues that while more must be done to curb excessive development costs, these will inevitably be higher when what is at stake are weapons systems now being developed to meet a threat in 15 years' time.

It is early days to judge these new initiatives. Some believe thet at best they are palliatives, and that only something much more tough—such as specialisation in defence production over the whole of the Nato alliance in which Britain, for example, would be required to give up shipbuilding entirely in favour of, say, avionics—can have any hope of affecting a cure to the spiralling costs of defence equipment.

Soundings in industry suggest that the new moves are broadly welcomed, at least by the major companies. There is across the board tribute to the improved dialogue with the MoD, though many top industrialists note that while they now have easy access to their MoD counterparts or to Ministers, the same is not true lower down.

Tough line

Mr Pattie and MoD officials acknowledge that "habits of a lifetime" are hard to shift—on both sides.

MoD officials often accuse industry of not being innovative.

"The feather-bedding is at an end," said one senior official. "Some companies find that difficult to accept."

Industry makes several other points:

● Large companies welcome the prime contractorship

The MoD's penchant for strict control is also criticised by companies involved in joint venture projects.

"Companies find the relationship where the MoD is both customer and partner a difficult one to live with," says Sir Charles Pringle, secretary to the Defence Industries Council and director of the Society of British Aerospace companies.

● Many companies, including component manufecturers, believe that the Government should do much more to actively promote exports, taking e leaf out of the French and U.S. books where government and industry combine to offer keener bargains to prospective customers. Both David Gardner of the Electronic Engineering Association and G. G. Connor of the British Naval Equipment Association advocate such "UK Ltd" policies.

● The prime contractorship system is not popular with component manufacturers nor other small companies, partly because they feel that in the points plan the services are recession primo contractors have kept much more work "in house."

Component manufacturers, according to Brig. Dick Purvis of the Defence Manufacturers Association, are increasingly dependent on export markets—"where they are doing very well."

But Brig Purvis is pleased with the government's current attempts to involve small business in defence work since he feels that they have tended to suffer in the face of the current policies.

It is clear that the relationship between the Defence ministry and industry in Britain is changing.

The days are certainly gone when the MoD was the all powerful provider of business to companies which, in fulfilling the MoD's requirements, were certain of a living, and often a very fat one. But as Mr David Gardner of the E.E.A. puts it, the MoD often finds it as difficult to become just an informed customer as the industry does to show real entrepreneurial spirit.

Bridget Bloom

Mr Geoffrey Pattie, Minister of State in charge of defence procurement: a curb on excessive development costs

UK DEFENCE SPENDING

Lively debate under way

A DEBATE now taking place between Britain's Defence Ministry and the Treasury over the size of the country's future defence budgets could have profound effects within the UK's defence industries.

Over the past five years, Britain's defence spending has increased markedly, and so, too, has the proportion of annual defence budgets allocated to the purchase of weapons systems and other defence equipment.

Defence spending overall is estimated by the Defence Ministry to have risen by nearly 19 per cent in real terms since 1978-79, when Mrs Thatcher's Government took office—though, with the Falklands expenditure excluded, this figure falls to a more modest 12.5 per cent.

The defence bndget for the current year ending in April, 1984, is set at £15.7bn and et £17.3bn and £18.3bn for 1984-85 and 1985-86. Of this year's budget, some £7.2bn will go on defence procurement—nearly 50 per cent of the total budget, compared to the 30 per cent share that equipment used to take in the 1950s and 1960s.

Increase

This year, for the first time in several years, spending on defenca has outstripped that on ednication: defence is now second only to social security in the league table of British government spending. And while it still comes a loog way behind that department's £32bn total, for the current year defence accounts for more than a quarter of all central Government cash limited departmental votes.

It is hardly surprising, therefore, that defence is a prime candidate for cuts as the Treasury attempts to keep overall Government spending within tight limits.

At this time of year, battle is normally joined between individual ministries and the Treasury as spending limits are set for the future. But for defence this year there are two key questions which raise issues going beyond what is expected from this babitual autumn review. The answers to the questions will probably not be clear for several more weeks but they will be of profound importance to both industrialists and defence planners.

The first question is whether the MoD will be required to cut more than its "fair" sbare of expenditure in the next financial year, 1984-85. The defence estimates for that year are said to be some £300m over planned targets, a sum whose loss could be relatively easily supported by the overall budget of £17.3bn.

However, when the Chancellor of the Exchequer cut some £500m from the current year's total Government spending in e sudden move after last June's election, the defence budget was cut by £240m or nearly 50 per cent of the total.

Since the Treasury is currently thought to be trying to pare £2.5bn from next year's overall spending estimate, the MoD has reason to worry at the implications of being asked to cut more than its fair share.

The second question is even more important. This autumn's discussion with the Treasury will determine whether the MoD will continue beyond 1985-1986 to honour its commitment to increase defence spending by 3 per cent a year in real terms. The 3 per cent was pledged in 1977 as part of a Neto alliance commitment and has been met by few countries. But it is guaranteed only through to the end of the 1985-1986 financial year.

It is clear that while Mr Heseltine, the Defence Minister, would like to see the increase continue the Treasury would like to stop it.

Another inter-departmental commitment which is not guaranteed beyond 1985-86 concerns spending on the Falklands. Sir John Nott, the former Defence Secretary, succeeded in persuading the Treasury to authorise total spending, in addition to the 3 per cent Nato commitment, of nearly £3bn up to 1985-86 to pay for the Falklands campaign and to maintain the garrison and replace lost equipment.

In the current review, the Treasury is epparently arguing that after 1985-86 spending on the Falklands—which is scheduled to decline once the £200m airport is completed—should be subsumed in the overall defence budget.

Major cuts in defence spending could heve profound effects within industry. The MoD reckons that it is the largest single customer of British industry. Its equipment budget of £7.2bn, 90 per cent of which is spent in Britain, is swollen by spending of £2.8bn on items such as construction, transport, fuel, telecommunications, food and clothing.

Defence procurement in recent years has accounted for about half the output of the aerospace industry and one-third of the output of the electronics and shipbuilding industries.

The Ministry estimates its equipment budget supports some 242,000 British jobs directly and another 193,000 indirectly. Around 160,000 jobs are supported through MoD purchases of non-defence equipment, and around 145,000 jobs ere said to stem from the sales of arms abroad.

At any one time, more than 10,000 companies are said to be working on defence contracts, while more than 50 companies have yearly business with the MoD which is worth more than £5m.

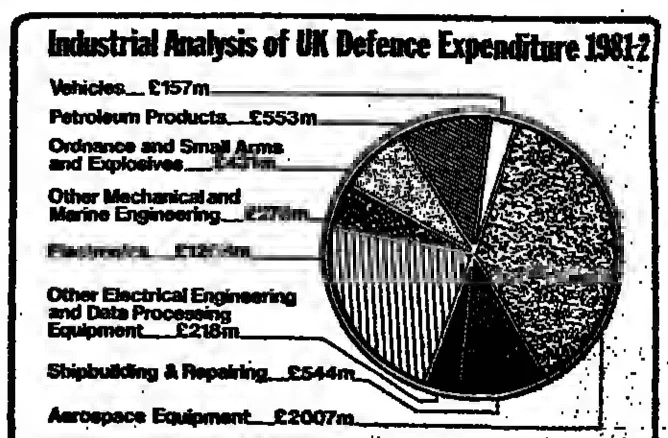
While most observers do not believe that major cuts are imminent, or even very likely in the medium term, the problem of defence spending is compounded by what the 1982 Defence White paper termed the "seemingly inexorable rise in the cost of defence equipment."

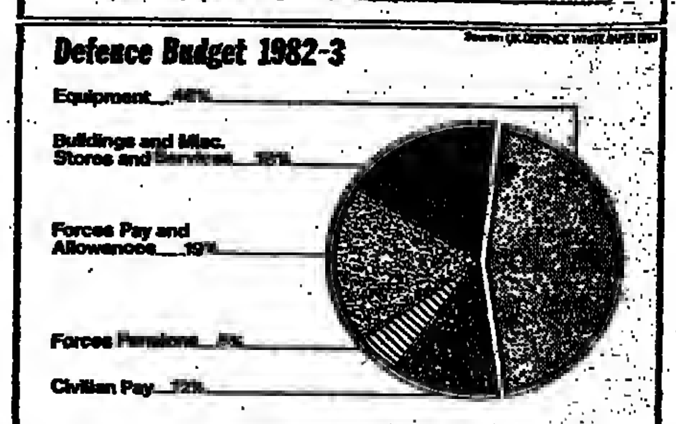
The MoD estimates this to have averaged 6-8 per cent a year over the last few years, though in certain key equipments many believe it to be as high as 10 per cent.

The nub of the problem for defence planners and arms manufacturers alike is that unless these rates of inflation can be scaled right down, or in other ways accounted for (by, for example, compensatory increases in the defence budget) the numbers of equipments which the MoD will be able to afford will continue to decline.

Or to put the problem another way: even if inflation in defence equipment could be reduced to around 5 per cent (an optimistic assumption), since spending on that equipment amounts to half the defence budget, the budget itself would need to rise by around 2.5 per cent a year merely to stand still.

Bridget Bloom





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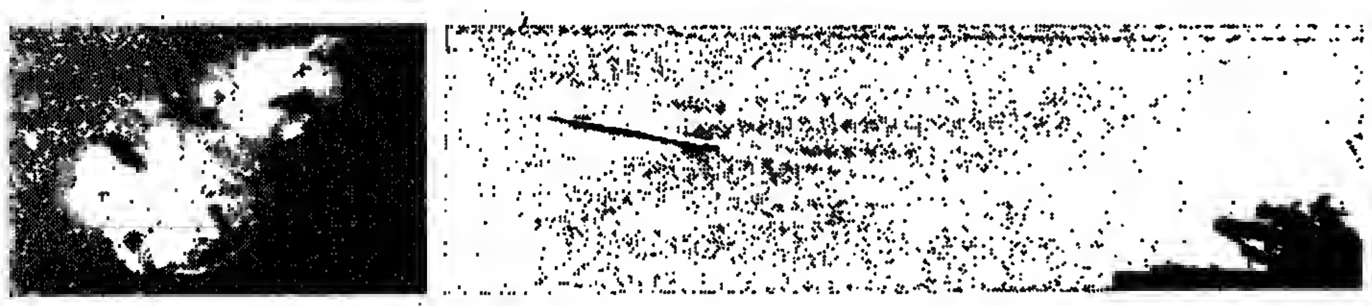


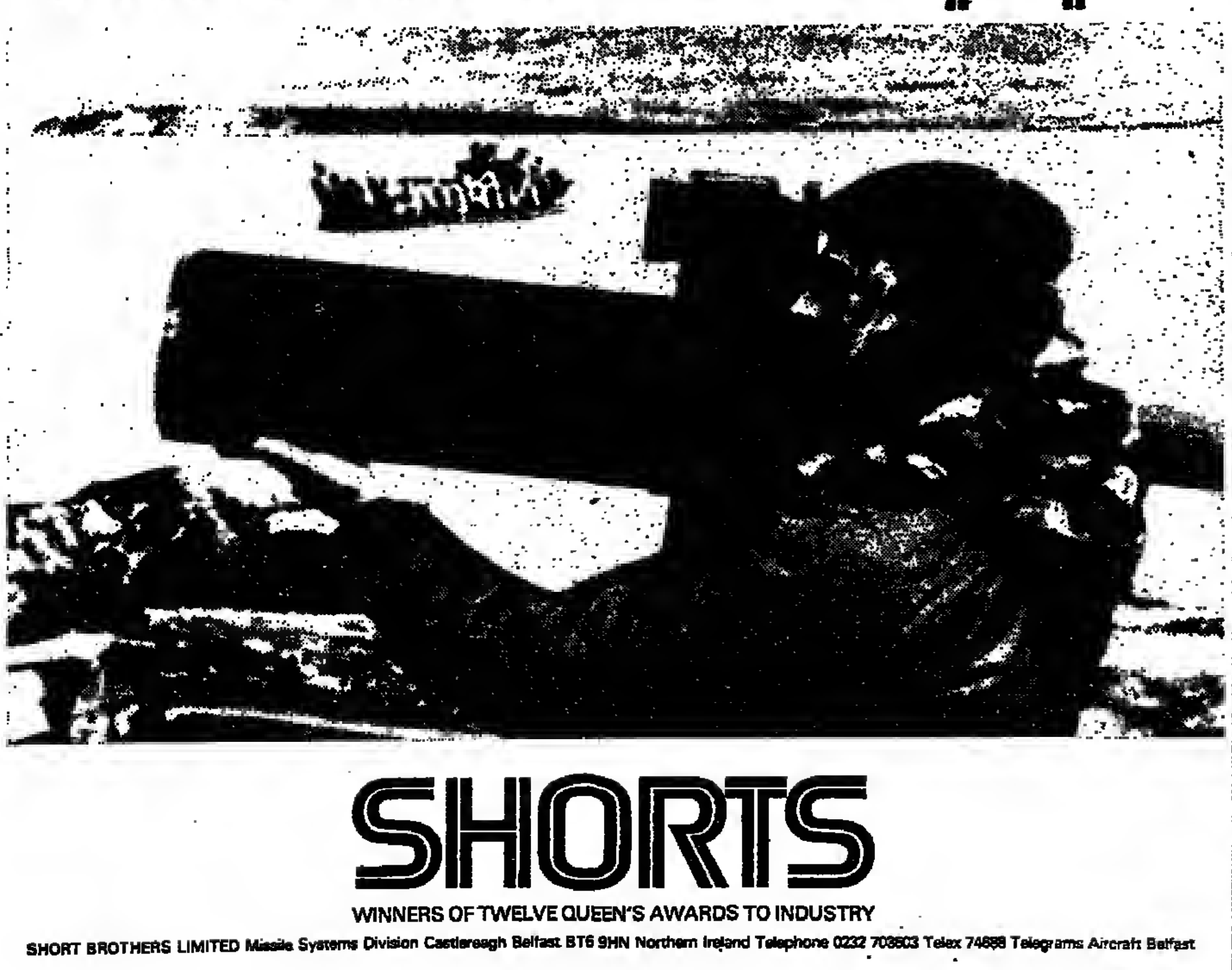
Potent, proven, cost-effective

Shorts Blowpipe—now deployed by sixteen armed forces from eleven countries—brings a potent, cost-effective dimension to man-portable fire-powar. For two decades Shorts hava dominated the close-range anti-aircraft guidad weapon fiald. Blowpipe—convincingly combat-provan with British Forces in tha Falklands—maintains this tradition.

Lightweight, compact and easily operated, it provides troops with instant defence against low-level air strike from both the high-speed ground attack fighter and the stand-off halicopter, and is the only shouldar-launched weapon of its kind with a proven capability of destroying attacking aircraft before they release their weapon loads. Its supersonic speed makes it effectiva against the fastest aircraft target and it also has a useful surfaca-to-surfaca capability.

A programme of performance enhancement currently being carried out under British Ministry of Defence contract will ensure that the system continues to meet developing defence requirements.

Blowpipe



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DEFENCE INDUSTRIES III

Aerospace markets still very buoyant

THE WORLD's military aircraft and missile markets remain exceptionally buoyant. This strong demand, especially from countries in the Third World (largely for the lighter, cheaper tactical combat aircraft and associated missiles), has served the world's aerospace industries well in helping to tide them through the worst recession in civil airliner business they have ever experienced.

There are no signs of this military business slackening. Indeed, all the forecasts confirm that it is likely to continue expanding through the rest of this century as many countries continue to re-equip their existing ageing air forces and emerging countries start to develop their defence forces.

It has been estimated that by 1985 spending world-wide on military aircraft (excluding the Soviet Bloc and China) will be running at about $27bn a year (measured in 1981 prices) rising to about $30bn annually by 1990 and rising further beyond that to $35bn-$40bn a year by the end of the century.

$10bn a year

In addition, spending on tactical guided missiles alone is likely to be running at an annual rate of up to $10bn a year through the rest of this decade, rising further through 1990s. Much of this will be spent on airborne tactical missiles for combat aircraft, but some will also be spent on ground-based and ship-based missiles for both surface-to-surface and ground-to-air roles, with the aerospace industries world-wide heavily involved in their development and manufacture.

The international competition for this business is already fierce, and is likely to intensify, across the entire spectrum of airframes, engines, avionics (airborne electronics) and weapons systems.

Because of the increasing costs and complexities of the projects involved, there will be greater concentration than in the past on international collaboration, discussed elsewhere in this survey. But, at the same time, there will be considerable pressures on some industries to "go it alone," if international ventures prove too difficult to develop.

Factors generating this pressure include the need to maintain hard-won technological skills in military aircraft and missile development at a time of rapidly escalating complexity, with the extensive "spin-off" into other products and industries that can result.

In some countries, the employment factor, at a time of recession in other aircraft markets, is also a potent force in favour of continued high military aircraft and missile spending.

It is also argued strongly in some countries that many of the new developments in airframes, engines and avionics emerging from the government-funded military aircraft, missile and space programmes are directly translated across to civil programmes, giving those countries' aerospace industries a major advantage in world civil markets.

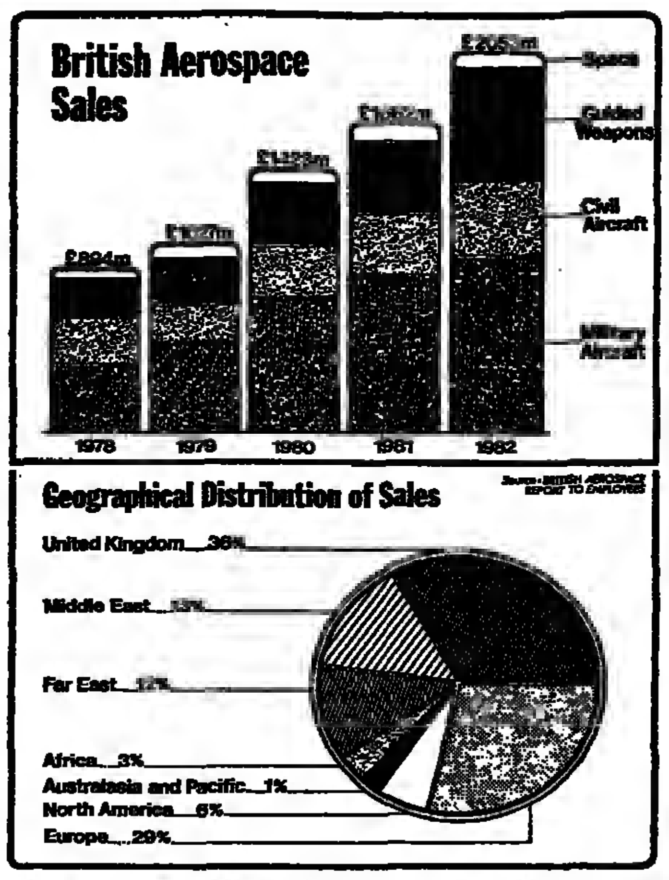
This factor is often cited as a prime reason for the success of U.S. civil aircraft and engines in world markets and it is often argued in the UK that this factor is not recognised sufficiently by those in Government responsible for the UK's industry affairs, resulting in inadequate financial support for the industry.

While it is busy on the military aircraft and missile side with a wide range of programmes, there is growing concern in the UK industry lest delays in establishing future major programmes should create a hiatus in the continuity of activity, especially in the late 1980s and early 1990s, as some major programmes run down.

The Tornado programme, for example, which has been the central pillar around which much of the UK industry's military airframe, engine and avionics effort has been concentrated for several years, is now running at a high level, even allowing for the slowdown in production rates for budgetary reasons introduced some time ago. Out of the 805 production aircraft required for the three participating nations, over 270 have been delivered, and at the current production rate of 110 aircraft a year, the programme will have peaked by the mid-1980s, and then start to run down. Some new venture of comparable magnitude will be required to fill the gap, and in order to ensure continuity, the detailed planning has to be done now.

It is for that reason that considerable efforts are now being made to press ahead with the Experimental Aircraft Programme (EAP), *(see below)*.

At today's combat aircraft costs, the value of the business long-term to the aerospace industries involved could come close to, if not exceed, the estimated £12bn of the Tornado design, development and production programme.



Similarly, on the missile side, the recent UK Government decision to acquire the British Aerospace Alarm (air-launched anti-radiation missile), in preference to the U.S. Texas Instruments/Lucas Aerospace Harm missile, will help to keep up activity in the UK guided weapons industry. The UK is also participating with European countries on the development of the advanced short-range air-to-air missile (Asraam), one of the major missile programmes of the future, with production likely later this decade and missiles entering service around 1990.

Harrier IIs

Apart from these programmes, the UK industry has a substantial volume of other military work currently on hand. This includes the 60 British Aerospace Harrier IIs (GR Mark 5s) for the RAF, and the UK's share of the work on the 342 production Harrier AV-8B aircraft for the U.S. Marine Corps, for which McDonnell Douglas is the prime contractor, in addition to the work involved jointly on the 16 AV-8B pre-development and pilot production aircraft.

A substantial work programme is also involved on the Hawk, primarily a jet trainer but also now being converted into a light combat aircraft for the RAF and other air forces.

In addition to continued production of Hawks to meet RAF and export requirements, much work is under way on the Hawk variant, the VTXTS programme for a new trainer for the U.S. Navy, where 309 aircraft are required—255 for carrier-borne work (T-45As) and 54 for land-based work (T-45Bs). The first full-scale development aircraft is expected to fly in 1984, and the first deliveries (of T-45Bs) are expected in 1985.

Assembly of the VTXTS aircraft will be by McDonnell Douglas in the U.S., but with British Aerospace building 50 per cent of the fuselages. Negotiations are under way for the supply of 12 RAF Hawks to the U.S. Navy in 1984 for evaluation.

One other major military aircraft programme is now under consideration in the UK—the replacement for the RAF's ageing jet Provost trainer. This could be a major effort, involving well over 100 aircraft and costing perhaps well over £200m in development and production costs.

Competition is fierce, with entrants not only from British Aerospace and Firecracker Aircraft in the UK, but also from Embraer of Brazil, Pilatus of Switzerland, and several companies in the U.S.

A decision is not likely until some time in 1984, but already considerable trades union and political pressures are developing to keep the order in the UK. Even if the order were to go to a foreign design, it seems inevitable that the UK would insist either upon production in this country, or some form of quid pro quo offset deal to counterbalance the order.

Indications, however, are that the internal pressures will be so great that the order, for the airframes at least, will be placed within the UK aerospace industry.

Michael Donne

Quest for more collaboration

OVER THE past two decades, international collaboration in the design, development, production and eventual operation of military aircraft and missile programmes has proliferated, for several reasons.

The prime motivation for such collaboration has been the increasing cost and complexity of modern weapons systems, frequently being such as to make it not only impossible for any one company, but also any one country, to undertake them alone.

The British-West German-Italian Tornado multi-role combat aircraft programme, for example, involving over 805 combat aircraft (excluding pre-production development aircraft) is estimated to be costing over £12bn through to its eventual completion in the late 1980s—a sum that no single country could meet alone, even if any single Western air force (outside the U.S.) needed that number of aircraft.

Another reason for collaboration, however, has been the growing need for standardisation of weapons systems throughout Nato, as a means of saving money and reducing the inventory of different types of weapons systems—thereby hopefully improving logistics and speedier deployment in the event of war, as well as easier training across the frontiers of Nato's members. At one time, it was calculated that, throughout Nato, there were no fewer than 20 different types of anti-tank weapon either in service, under development or proposed—a massive waste of industrial resources as well as cash in design, development, manufacture and ultimate deployment.

There has never been such a plethora of designs in the military aircraft or missile fields, but there have been sufficient in Western Europe to encourage countries to try to get together to cut the bills, expand the production runs, and improve the combat effectiveness of the alliance as a whole. Examples of past collaboration include the British and French Jaguar jet strike-trainer, the Franco-German Alpha jet trainer, the Anglo-French helicopter "package" (Gazelle light helicopter, Puma transport helicopter and the Lynx multi-role helicopter), the Franco-German Transall military transport and more recently the Anglo-U.S. AV-8B Harrier II "jump jet."

The blueprints for future collaboration are thus well established. What is less predictable is the ability of the potential collaborators to find enough common ground upon which to build future ventures. There have been some notable failures in the past—such as the abortive Anglo-French Variable Geometry (swinging wings) fighter of the 1960s.

More recently, efforts by the British, West Germans and Italian aerospace industries (and Air Staffs) to get the French to collaborate in the development of the Tornado, also failed, with the French aerospace industry going alone on the further development of the Mirage series of fighters, with the Mirage 2000 and the more recent Mirage 4000.

Big effort

This pattern of both success and failure seems on the verge of occurring again. Over the past two to three years, there has been considerable effort in Western Europe to try to launch a European Aircraft Programme (EAP), designed to replace Jaguar jet strike-trainers in the RAF, Phantoms in the Luftwaffe and Lockheed 104s and other types in the Italian air force.

So far, no clearly defined venture has emerged, although the various aerospace industries, Air Staffs and governments of those three countries are still trying. Most recently, the British, French and West German ministers met in Paris and reputedly agreed to formulate a joint staff requirement, and to meet again next year.

In the meantime, the UK is pushing ahead alone with its own Experimental Aircraft Programme (also designated EAP), a £160m venture, jointly funded with £65m of Government cash, the rest coming from the aerospace industry itself, with perhaps some contributions coming eventually from European countries if they decide to join in the venture. This experimental aircraft venture is intended to produce a "technology demonstrator" aircraft to fly in 1986, to prove the feasibility of developing a full-scale new, supersonic, twin-engined advanced tactical combat aircraft.

The eventual full-scale venture will be designated the Agile Combat Aircraft (indeed, at present the terms EAP and ACA are frequently used to describe the same venture), and it is hoped that well before the experimental aircraft itself flies, a clear decision on the ACA, with or without European support, will have emerged.

Until now, France has been pressing ahead alone with its own "Avion de Combat Futur" or ACX, which is remarkedly similar in design and intended performance to the British venture.

The future is thus still uncertain. While work on the UK experimental aircraft goes on determinedly, some research is still also being done by the UK and West German industries on the European Aircraft Programme idea. It is hoped that in the not too distant future, West Germany might join in the experimental aircraft venture, which would probably also help to bring in the Italians, so that the programme could eventually become the basis for the wider European programme. The Spanish are also interested in the idea.

So far, however, the British Government is only committed to the UK experimental aircraft and, even then, on a limited financial basis. It remains to be seen whether or not either it, or the RAF, will commit themselves to a full-scale Agile Combat Aircraft that in turn may, or may not, become a full-scale European Aircraft Programme.

All that is clear is that any new venture is going to be expensive, costing several billion pounds in total design, development, and full-scale production costs, covering hundreds of aircraft.

There would seem to be little likelihood of the UK being able to undertake such a major venture alone, on financial grounds, although there is no doubt that the technical capability to do so exists.

The other major international collaborative venture now just getting under way in Western Europe is the joint Anglo-Italian project for a new helicopter to replace the Sea King in both anti-submarine warfare, describe the same venture), and it is hoped that well before the experimental aircraft itself transport and other duties.

Called the EH-101, this is a £450m collaborative programme between Westland Helicopters of the UK and Agusta of Italy, with two types envisaged, a military aircraft and a commercial venture. A joint company, EH Industries, was set up in 1980, and work is now well under way, with the aim of a first flight in 1986 and production deliveries from 1989.

While both Agusta and Westland would like participation from other European helicopter manufacturers, such as MBB in West Germany and Aerospatiale in France, this has so far not materialised.

Looking further ahead, the collaboration now in progress between British Aerospace and McDonnell Douglas of the U.S. on the AV-8B Harrier II, and between Rolls-Royce and Pratt and Whitney on the improved Pegasus engine for that aircraft, bids fair eventually to extend into the development of some form of supersonic S/TOVL (short take-off and vertical landing) aircraft for the mid- to late 1990s.

Research

Consideration of such a venture is as yet in its earliest stages, but much technical research is under way in all four companies on the airframe and engine ideas that will eventually come together to create such an aircraft.

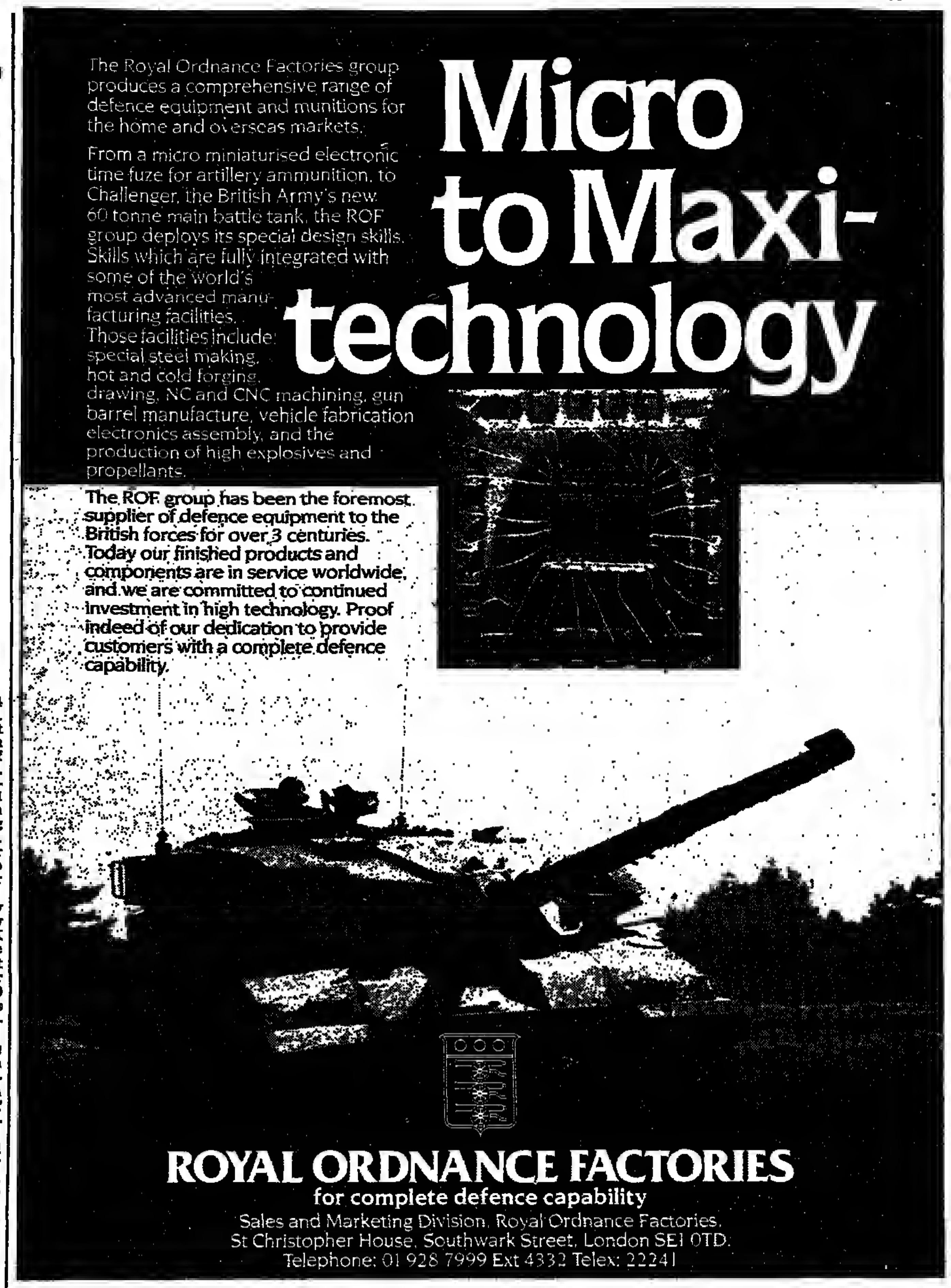
Some estimates have put the market for advanced tactical combat aircraft world-wide up to the end of this century at as many as 4,500 aircraft, of which the European venture could expect to win a substantial proportion.

One other major new international collaborative venture that may emerge over the next few years is the development of new joint civil and military aircraft—or "airlifters."

At the Paris Air Show this summer, it was announced that British Aerospace, Messerschmitt-Bolkow-Blohm, Aerospatiale of France and Lockheed of the U.S. were studying the possibility of such ventures, including assessing the market potential and how such a joint venture might work.

The studies are in their earliest stages, but is is thought that by the Farnborough air show next year, the companies might be in a position to say more about their future plans.

Michael Donne



A revolution in communications

THE GREAT upheaval in communications which is bringing about a revolution in the civilian market is having an equally profound effect on defence organisations worldwide. The very rapid changes in computer and micro electronics technology have major implications for the military.

These changes are affecting communications at all levels from portable battlefield radios to global communications networks using setellites.

The revolution in electronics is making equipment smaller, smarter and more complicated. The trend to distributed processing in the computer world is being echoed in the communications field which may affect the very structure of a military communications network.

The new technologies and techniques can mean much lighter weight equipment using sophisticated encryption techniques. And it means the integration of data, voice, facsimile, and a number of other communications into one system.

The vast majority of defence communications still use analogue communications, where information is transmitted in wave-form.

The new generation of digital communications — which is just beginning to be introduced more widely in civilian use — is also beginning to feature in military uses. Digital communications has considerable advantages of being smaller, cheaper, and able to carry a wide range of services from high speed data to voice. In addition, digital communications enable encryption techniques to be used more cheaply and more readily.

One of the most important defence communications contracts to be awarded this year was the U.S. army's SINCGARS V (Single Channel Ground and Airborne Radio Systems VHF).

The U.S. army's requirements for these frequency-hopping tactical radios could eventually be worth about $4bn.

The initial contract was awarded to ITT Telecommunications Corporation's Aerospace Optical Division in Fort Wayne in Indiana.

The U.S. Defence Department has been assessing frequency-hopping radios since the early 1970s. The order is thought to be the largest ever made for frequency-hopping radios and puts ITT in a strong position to win further orders in export markets including other Nato countries.

A number of the world's leading defence electronics companies are seeking to sell frequency hopping radios in world markets including Harris and ITT in the U.S., Marconi Space and Defence Systems, Racal and Plessey in the UK, Thomson CSF in France, Tadiran in Israel and Grinaker in South Africa.

The U.S. army had postponed its decision on frequency hopping radios several times. Two years ago it rejected a fast hopping system on the grounds that it was too expensive and too advanced for any likely threat.

The fast system was developed by Rockwell Collins of the U.S. in conjunction with Plessey in the UK. The final battle for the contract was fought between ITT and Cincinatti Electronics with Marconi Space and Defence Systems, both subsidiaries of Britain's General Electric Company (GEC).

The most successful company to to date in export markets for frequency hopping radio has been Britain's Racal. Earlier this year it won an order worth £20m to supply Oman with frequency hopping radios with its Jaguar V. Racal has sold Jaguar V to at least 13 countries.

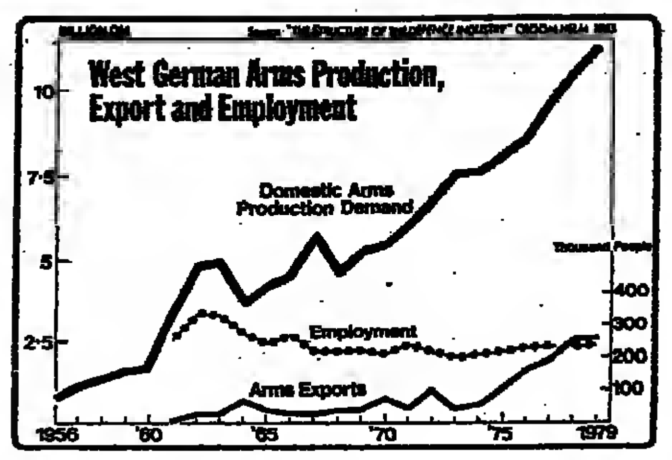
With the very high volumes of orders in the U.S., ITT is likely to become a formidable competitor in overseas markets as it benefits from the economies of scale of production.

There is also a major growth in the military's use of tactical telecommunications. Increasingly, defence organisations are moving towards their own communications networks which are more secure than using those of the PTT.

According to a recent study published by Frost and Sullivan, the U.S. consultants, the present total market for tactical communications equipment in Europe and Nato will exceed $10bn between 1982 and 1987. (Included in this figure is about $4.5bn for battlefield radios and associated equipment.)

The leading suppliers in Europe are Plessey, which designed and manufactures PTARMIGAN which is fully compatable with EUROCOM, Philips, Siemens, AEG-Telefunken, and Standard Electrik Lorenz, the German subsidiary of ITT. U.S. suppliers include Rockwell-Collins, GTE-Sylvania, Sperry Univac, ITT and Harris.

Jason Crisp



NATO EXPENDITURES ON EQUIPMENT

	Equipment expenditure as a percentage of total defence expenditure (%)			Total defence expenditure (U.S.$m)
	Average 1970-74	1976-77	1980-81	1980-81
Belgium	10.6	11.0	14.4	4,000
Canada	7.3	8.0	15.4	4,400
Denmark	16.8	19.4	18.3	1,600
Germany	11.9	13.2	14.8	26,700
Italy	15.4	18.1	17.5	8,700
Luxembourg	1.6	3.4	1.8	n.a.
Netherlands	12.8	15.5	18.0	5,200
Norway	13.5	11.4	19.3	1,700
Portugal	7.5	1.9	6.1	800
Turkey	4.0	28.5	4.7	2,100
UK	17.0	20.6	25.2	26,300
U.S.	21.1	17.4	20.3	140,500

Source: NATO.

Data sources on arms production

COMPARED to the world's main civil industries, public information about defence industries is "fragmentary."

"The picture of trade is very thin, with some information about quantities exported by some countries, and some information about values but with very little information about the country destination of exports."

These views come from the preface of a most welcome book "The Structure of the Defence Industry," which is one of a small number published recently which begin to fill some of the gaps in public knowledge of one of the world's key industries.

The new book edited by Nicole Ball and Milton Leitenberg and published by Croom Helm, has extremely useful chapters on the French, West German and Italian defence industries, in particular——though for some unaccountable reason, Britain is covered only by a few tables in an appendix.

A critical study of co-operation in arms production within Nato was published earlier this year by George Allen and Unwin.

Written by Dr Keith Hartley, director of the Institute of Social and Economic Research at York University, "Nato Arms Co-operation—A Study in Economics and Politics," has a particularly thorough analysis of the multi-national collaboration within the aerospace industries.

Other useful publications, including some recent studies of defence industries by members of the Stock Exchange, include:

- Defence Spending and the Electronics Industry; published this year by Fielding, Newson-Smith & Co., London, E.C.2.
- UK Defence Equipment Review; published by Grieveson, Grant and Co., London, E.C.2, September, 1983.
- Defence Equipment Manufacturers, published by ICC Business Ratio Reports, London, E.C.1, August 1982. Price: £97.
- The British Defence Industry; published by Jordans, London, N.1, April 1983. Price: £90.
- Burden Sharing in Nato, by Simon Lunn; published by the Royal Institute of International Affairs, 1983. Price: £3.95.
- Nato Arms Co-operation; by Keith Hartley; published by George Allen & Unwin, 1983. Price: £18.50.
- The Structure of the Defence Industry; edited by Nicole Ball and Milton Leitenberg; published by Croom Helm, 1983. Price: £17.95.
- The Defense Industry, by Jacques S. Gansler; published by the MIT Press, Mass. and UK, April 1981.
- National Defense, by James Fallowes, Random House, NY, 1981. Price: $12.95.
- Britain's MoD has issued a guide to small businessmen wanting to do defence business while, at this survey went to press, an open Government document on the MoD's relations with industry was due to be published.

Dilemma for the world's navies

THE KEEPING of world navies in fighting trim is a highly expensive business. For maritime governments, the dilemma over whether to shave costs as much as possible, or simply go all-out for the latest and best equipment available, can be acute.

In Britain, the debate has been a furious one. Before last year's Falklands war, the Government was determined to save money by paring naval resources. But after the victory, it has compromised. Warship numbers are being held at 55, whereas the previous aim had been to reduce these to 50 in the mid-1980s from 59 in 1981.

The sums that countries are prepared to spend on their navies, relative to the national income, vary enormously. The Soviet Union, for instance, devotes as much as 15 per cent of its gross national product to defence—almost three times that of the U.S. and five times more than many smaller naval powers.

Also, wrote Capt John Moore, in the latest edition of Jane's Fighting Ships, the USSR is able to spend much more of its quota on research and production because of the low wages of conscripts, as well as acquiring a good deal ow Western technology by open or more devious means.

In the UK, a large Type 22 frigate costs around £130m and a nuclear submarine more than £200m. Nationalised British Shipbuilders is building four frigates for the Royal Navy, with two more orders on the way.

Warship construction is the only major part of BS to make a profit and the present Conservative government is keen to see this returned to the private sector, leaving the rest to fend for itself.

New orders

BS ended its last financial year on March 31 this year with warship orders worth just under £2bn, of this, £220m was for export. Apart from delivering four major warships to the British navy, the corporation also completed fast strike craft for Egypt and Oman and fast patrol craft for a North African country.

It would dearly love to export more. But not all foreign navies want the highly sophisticated vessels that the Royal Navy has required. Smaller and simpler warships are, however, being closely looked at by the navy. This would keep costs down and help prevent a further fall in warship numbers.

The next frigate design, the smaller and cheaper Type 23 costing some £100m, would—so hopes BS—have much more export potential than the present one. The Navy expects to place the first order of eight or more next year.

Britain is one of the world's major warship builders after the U.S. and the Soviet Union but has not fared especially well in export markets, where West Germany, Holland and Italy provide strong competition.

Intruding into the argument over cost and type is the controversial S90 design for a short, fat warship rather than the traditional long, slim shape. This has been put forward by Thorneycroft Giles, a private company, as an alternative to the Type 23. Tests have been carried out by the Government on the S90.

The problem for naval countries, whatever their ranking in size and strength, is that costs of warships have escalated alarmingly.

In the UK, Capt Moore pointed out, warship prices have been doubling every four years. Thus, he argued for "urgent, innovative and far-reaching reforms." Annual naval budgets and frequent defence reviews conflict with the long construction runs of modern warships.

Modernisation

But while costs are shooting ahead, a number of countries now find it necessary to modernise their fleets. Many smaller navies have bought ships from countries with larger naval fleets and surplus vessels.

But these second-hand ships are now ageing. Capt Moore cited the case of Argentina, racked by dire economic problems including runaway inflation, which embarked on a costly and ambitious re-equipment programme.

Changes in weapons technology have also altered the cost structure and capability of fleets. Britain now has the Sea Skua air-launched and Sub-Harpoon underwater-launched missile systems. The lightweight Sting Ray is a recent addition to weight Spear Fish torpedo due in a few years.

In the U.S., studies have been made of a vertical launch system for missiles, which could cause a need for broader ships with a much heavier missile load.

The planned Type 23 frigate, developed by BS's Yarrow yard in Scotland, will have the Sea Wolf short-range missile system, as well as other guided weapons, advanced radar, quiet diesel electric engines, and a smaller crew to help keep costs down.

Another BS yard, Vosper Thornycroft in Southampton, has come up with the Mark 18 frigate design, weighing less than 2,000 tonnes against 3,000 tonnes for the Type 23.

Capt Moore had some stiff words to say in the latest Jane's about the effect on warship building of past defence cuts. He referred to the "wholesale emasculation" caused by the defence review of 1981 and said the effects would be widespread "even with the recantations forced on the government by the harsh realities of the Falklands campaign."

The Ministry of Defence, not normally the most loquacious of bodies, was stung into a quick reply. It argued that the number of nuclear hunter killer submarines was going up not down and that the design of the new diesel submarine Type 2400 did not lag behind those of other European builders, as claimed. The ministry also said it was spending heavily on warships and extending the range of equipment.

But as costs and sophistication of warships keep rising, so will governments have to search even harder for ways of saving money without weakening their fleets. Affluence, commitment, and a sympathetic treasury are key requirements for a well-defended nation.

Andrew Fisher

WEAPON COSTS IN NATO

	£m
Programme costs of UK weapons (estimated R & D and production costs, 1979 prices)	
Stingray lightweight torpedo	920
Sea Eagle air-to-surface anti-ship missile	350
New sonars fer surface ships and submarines	170
Unit production costs of UK weapons (1980 prices)	
Nuclear powered fleet submarine	175
Type 22 frigate	120
Tornado strike aircraft	11.4
Chinook helicopter	3.5
Lynx helicopter	2.1
Challenger main battle tank	1.5

FRENCH DEFENCE BUDGET

Indexed growth of Gross National Product, state expenditures and defence spending

(1959=100)

Year	GNP	State expenditures	Defence spending
1959	100	100	100
1962	135	125	110
1965	181	165	132
1968	230	223	159
1971	326	289	183
1974	478	394	243
1977	702	600	371
1980	1,008	939	562

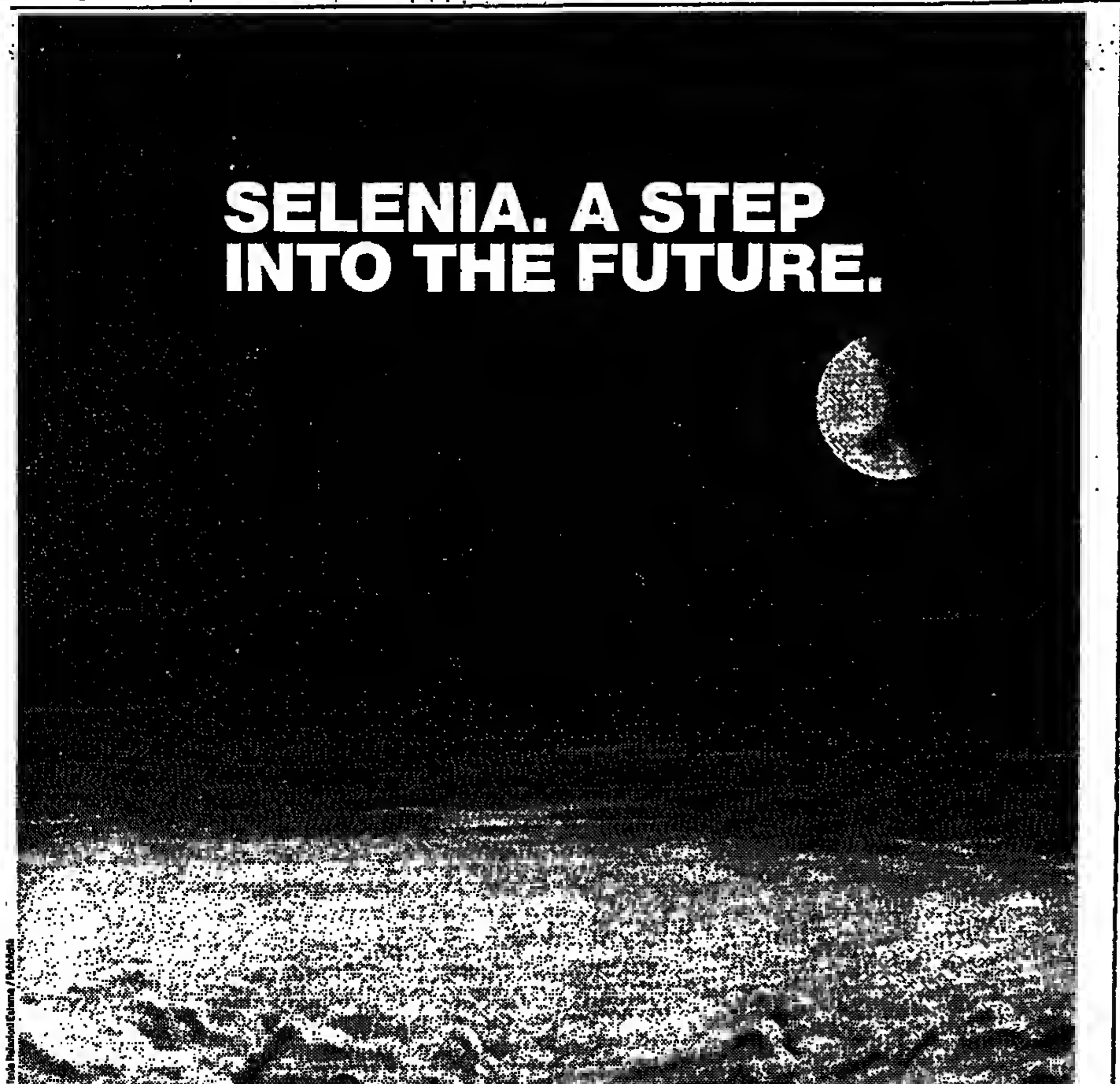
Source: France, Assemblée Nationale, Commission des Finances de l'Economie Générale et du Plan; included in the structure of the defence industry; Croom Helm 1983.

U.S. DEFENCE BUDGET

Financial year	Total obligational authority ($m): Total	Procurement	RDT&E†	Budget as percentage of: Federal budget	GNP
1950	14,337	4,176	553	27.4	4.4
1960	40,257	11,137	5,476	45.0	8.3
1970	75,517	19,161	7,399	39.2	8.0
1980	139,243	35,792	13,517	22.6	5.1

† Research, development, testing and evaluation.

Source: U.S. Department of Defence.



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Joint ventures run into problems

THERE have been several attempts at international collaborative programmes in the heavy military equipment manufacturing sectors of Western nations in recent years.

Some of these, in the fields of gun development and ammunition standardisation have succeeded, while others, notably the attempts to produce standard main battle tanks on a collaborative basis have largely failed.

Collaborative ventures offered the chance of substantially reduced unit costs and further standardisation on the battlefield, with production spread over a larger market. This is an attractive approach for governments faced with tight spending budgets and smaller armies.

One of the few successful examples of this international collaboration among some of the members of the North Atlantic Treaty Organisation is the tri-national programme to develop the 155 mm towed howitzer. This gun, the FH-70, is entering service with the armies of the three nations developing it, Britain, Germany and Italy.

The new gun has been designed from the outset to fire standardised ammunition, from Britain, the U.S., Germany and Italy, which meets the Quadrilateral Ballistics Agreement between the countries.

The FH-70 has been followed by the Anglo-German-Italian SP-70 the self-propelled version of the 155 mm howitzer.

Britain is represented on the howitzer programme by the Government-owned Royal Ordnance factories, candidates for the injection of private capital under current proposals being considered by the Ministry of Defence. Under the tri-national self-propelled howitzer programme, Britain is responsible for the turret, including the automatic loading system and the gun sights.

West Germany has responsibility for managing the programme, with Porsche, and Rheinmetall of Dusseldorf as the main German contractors, responsible for the gun, main engine power pack and the chassis.

Italy, represented at the industrial level by Oto Melara, of La Spezia, is responsible for the gun cradle, recoil system, gun elevating and balancing gear, auxilliary power units and the engine fuel system.

Other gun programmes that are the subject of international collaboration include the Belgian adaptation of the U.S. M114A1 howitzer, also of 155 mm. This programme is designed to use the maximum number of parts from the U.S. gun, with improved handling and performance.

Rocket system

A current multi-national programme involving France, Britain, Italy, Germany and the U.S. is for the ground-to-ground multiple launch rocket system, MLRS. This was developed originally by Vought of the U.S., but under curret proposals MLRS is to be adapted by the European partners.

West Germany is handling the phase II warhead for the rocket. The complex phase III terminally-guided munition, a projectile fired from the rocket near the target, is still the subject of competitive bids by rival consortia from Britain, Germany, France and the U.S.

In Britain, British Aerospace's Bracknell Division, formerly the Sperry Gyroscope company, signed an agreement earlier this year with a group of companies known as the General Dynamics Team competing for the validation programme contract for the terminally-guided warhead of MLRS.

The General Dynamics Team comprises the General Dynamics Corporation, Pomana Division, the main contractor; British Aerospace Dynamics Group, Bracknell Division; Sperry Corporation of the U.S.; Dynamit Nobel of Germany; Societe Europeane de Propulsion, SEP of France and Scicon of Britain.

The Bracknell Division will be responsible for the guidance electronics of the terminally-guided sub-munition.

Competition

A second British Aerospace division, at Stevenage is also competing for the system contract, as part of the Hughes group of companies in the U.S.

Collaboration in this type of high technology development among defence equipment manufecturers has not been matched to any extent by collaboration at the more traditional level of heavy engineering, involving tanks and other heavy armoured fighting vehicles.

Indeed, it has been a characteristic of the heavy defence engineering industries of the west over the past two decades that individual nations have pursued the separate development of a range of apparently similar main battle tanks.

Main battle tanks are still regarded by the defence establishment as the essential warhorses of the armies of the 1980s, in spite of their increasing vulnerability in the face of missile-carrying helicopters and other advanced weapons.

These threats have increased the costs of development and have encouraged the main tank makers in Europe and the U.S. to consider collaboration. But this ideal has largely failed to be achieved in Europe and especially in NATO.

The result has been a plethora of advanced designs of heavy, cumbersome main battle tanks, each the separate product of the defence industries of individual nations anxious to maintain sovereignty over their tank industries, an 80-year-old sector of defence equipment still regarded as vital to national defence interests.

No tank manufacturing country in Europe appears to have been willing so far to share completely all its tank design and equipment secrets with its allies.

Britain's Royal Ordnance Factories have produced the £1.5m Challenger version of the Chieftan main battle tank, with the still secret Chobham armour, largely for service with the British Army of the Rhine, up to the 21st century. The BAOR is to get 250 Challenger tanks over the next five years.

Vickers, the diversified engineering company based on Tyneside has developed as a private venture its own main battle tank, the Valiant. This has been designed for export to those countries seeking a tank with Chobham armour and advanced systems, but costing £1m, £500,000 less than the Challenger. Vickers has received no orders for Valiant, but is still producing its earlier main battle tank, Mark III to a £50m order from Nigeria.

Germany has its Leopard 1 and 2 main battle tanks for service with the German army up to the 1990s. The Federal German Army placed an order for 1,800 Leopard 2 tanks in 1977, with Krauss-Maffei of Munich, the prime contractor for the Leopard 1, awarded a contract to build 990 of the tanks and Krupp MaK of Kiel a contract to build the remaining 810 tanks.

The first production Leopard 2 was handed over by Krauss-Maffei in 1979 and, by last year, production of the tank was proceeding at a rate of 25 tanks a month, with the total order expected to be complete in 1986.

The design and production of the tank has gone ahead in the face of a memorandum of understanding between the U.S. and Germany, signed in 1974. This MoU affirmed the intention of both governments to make all reasonable efforts to standardise their tank programmes, although neither country was bound to select one of the tanks.

France and Germany are also working on a concept definition of a new main battle tank.

Lynton McLain

WORLD STOCK MARKETS

Indices

NEW YORK — DOW JONES

	Oct. 7	Oct. 2	Oct. 5	Oct. 4	Oct. 5	Sept. 30	1983 High	1983 Low	Since C'mpil'tn High	Since C'mpil'tn Low
● Industr'ls	1272.15	1268.80	1250.2	1255.58	1231.80	1233.13	1272.15 (7/10)	1027.04 (3/1)	1272.15 (7/10/83)	41.29 (2/7/32)
H'me Bnds	72.21	72.24	72.15	72.08	72.07	72.05	77.84 (5/5)	69.85 (8/8)	—	—
Transport	586.78	583.65	578.44	582.08	580.78	581.58	590.03 (27/6)	434.24 (5/1)	590.03 (27/6/83)	12.32 (8/7/32)
Utilities	139.97	140.08	138.02	136.8	135.12	134.80	140.08 (6/10)	118.61 (3/1)	163.32 (20/4/69)	10.5 (28/4/42)
TradingVol 000-1	103.63	—	101.718	90.578	77,230	70,886	—	—	—	—

● Day's high 1280.28 (1272.15) low 1262.60 (1246.95)

Indust'l div. yield %	Sept. 23	Sept. 15	Sept. 9	Year ago (Approx)
	4.43	4.53	4.48	6.92

STANDARD AND POORS

	Oct. 7	Oct. 6	Oct. 5	Oct. 4	Oct. 3	Sept. 30	1983 High	1983 Low	Since Cmpilt'n High	Since Cmpilt'n Low
Indust'ls	192.86	191.79	188.8	187.6	186.25	187.38	193.22 (22/6)	164.95 (3/1)	193.22 (22/6/83)	3.62 (30/6/32)
Comp's'te	170.30	170.28	167.79	168.27	165.80	166.07	170.38 (22/6)	138.34 (3/1)	170.38 (22/6/83)	4.40 (1/6/32)

	Sept. 28	Sept. 21	Sept 14	Year ago (Approx)
Indst'l div. yield %	0.89	0.90	5.25	5.29
Indust'l P/E ratio	14.60	14.58	14.33	2.90
Long Gov. Bond yield	11.34	11.50	11.59	11.53

N.Y.S.E. ALL COMMON

Oct. 7	Oct. 6	Oct. 3	Oct. 4	1983 High	1983 Low
92.72	98.44	97.03	96.24	99.01 (22/6)	80.92 (24/1)

Rises and Falls	Oct. 7	Oct. 6	Oct. 5
Issues Traded	1,965	1,978	1,945
Rises	940	1,129	988
Falls	644	510	689
Unchanged	381	339	588
New Highs	137	128	93
New Lows	4	4	7

MONTREAL

	Oct. 7	Oct. 6	Oct. 5	Oct. 4	1983 High	1983 Low
Industrial	448.75	445.39	441.67	442.73	488.80 (26/2)	351.18 (4/1)
Combined	427.51	424.32	420.18	420.34	441.29 (26/9)	328.12 (4/1)
TORONTO Composite	2517.1	2505.2	2478.7	2474	2598.2 (26/9)	1949.8 (4/1)

NEW YORK ACTIVE STOCKS

Friday	Stocks traded	Closing price	Change on day		Stocks traded	Closing price	Change on day
Gulf Oil	1,921,900	44⅛	+ ⅛	Ford Motor	1,065,900	66⅞	+ ⅛
ATT	1,627,600	64⅜	— ⅞	Chrysler	1,046,900	32⅞	+ ⅜
Tosco	1,412,200	6⅝	− 2⅝	Rowan	999,400	11⅞	—
Merrill Lynch	1,157,500	36⅞	+ ½	Gen. Electric	843,700	56	+ ⅛
Amer. Express	1,091,500	39⅝	+ ⅜	Greyhound	211,100	22⅛	+ ⅜

	Oct. 7	Oct. 6	Oct. 5	Oct. 4	1983 High	1983 Low
AUSTRALIA						
All Ord. (1/1/80)	700.5	702.8	702.5	697.4	736.7 (12/9)	487.2 (4/1)
Metals & Minls. (1/1/80)	540.3	536.6	543.1	536.8	514.2 (5/8)	411.8 (4/1)
AUSTRIA						
Credit Aktien (2/1/62)	54.78	55.10	55.04	55.11	58.6 (5/5)	48.48 (15/2)
BELGIUM						
Belgian SE (31/12/63)	129.04	128.58	129.87	130.83	134.48 (1/8)	100.50 (4/1)
DENMARK						
Copenhagen SE (3/1/83)	188.41	192.79	195.92	195.7	204.22 (15/8)	100.00 (3/1)
FRANCE						
CAC General (31/12/82)	140.9	139.9	139	139.6	140.9 (7/10)	96.1 (3/1)
Ind Tendance (31/12/82)	150.1	149.1	147.9	148.5	150.1 (7/10)	98.0 (3/1)
GERMANY						
FAZ-Aktien (31/12/58)	326.85	324.04	320.42	317.38	331.65 (7/7)	241.89 (25/1)
Commerzbank (Dec1953)	968.40	961.9	961.5	941.5	996.8 (7/7)	727.9 (25/1)
HONG KONG						
Hang Seng Bank (31/7/64)	734.95	708.92	717.69	690.08	1102.64 (21/7)	690.08 (4/10)
ITALY						
Banca Comm Ital. (1972)	181.01	181.65	182.46	182.11	214.98 (21/3)	186.45 (10/1)
JAPAN(**)						
Dow Average (16/5/49)	9662.48	9629.97	9481.93	9424.34	9662.48 (7/10)	7803.18 (25/1)
Tokyo New SE (4/1/68)	699.66	697.84	696.73	690.51	699.4 (7/10)	574.51 (25/1)
NETHERLANDS						
ANP-CBS General (1970)	143.4	142.9	141.1	142.1	144.0 (26/9)	100.1 (4/1)
ANP-CBS Indust (1970)	118.1	117.3	116.2	116.5	118.1 (7/10)	83.5 (4/1)
NORWAY						
Oslo SE (4/1/83)	216.56	211.47	206.03	204.66	216.55 (7/10)	99.81 (4/1)
SINGAPORE						
Straights Times (1966)	930.19	924.12	931.06	953.44	952.62 (25/9)	772.29 (5/1)
SOUTH AFRICA						
Gold (1958)	—	782.7	760.4	781.8	1099.5 (1/2)	694.3 (28/6)
Industrial (1958)	—	927.9	932.5	934.7	988.7 (28/8)	764.3 (5/1)
SPAIN						
Madrid SE (31/12/82)	118.44	117.87	116.92	116.4	120.82 (15/7)	96.82 (11/1)
SWEDEN						
Jacobson & P. (1/1/58)	1476.86	1474.48	1460	1453.66	1529.90 (5/8)	898.18 (6/1)
SWITZERLAND						
SwissBankCpn. (31/12/58)	339.7	337.9	336.6	335.1	347.9 (4/8)	284.4 (4/1)
WORLD						
Capital Intl. (1/1/70)	—	183.9	181.7	180.2	185.9 (9/10)	154.3 (5/1)

(**) Saturday Sept 24: Japan Dow 9,314.00, TSE 687.66.

Base values of all indices are 100 except Australia All Ordinary and Metals—500. NYSE All Common—50; Standard and Poors—10; and Toronto—1,000; the last named based on 1975. † Excluding bonds. ‡ 400 Industrial. § 400 Industrials plus 40 Utilities, 40 Financials and 20 Transports. c Closed. u Unavailable.

AUSTRIA

[illegible]

BELGIUM/LUXEMBOURG

[illegible]

DENMARK

[illegible]

CANADA

[illegible]

ITALY

[illegible]

NETHERLANDS

[illegible]

NORWAY

[illegible]

AUSTRALIA

[illegible]

FRANCE

[illegible]

GERMANY

[illegible]

SINGAPORE

[illegible]

SWEDEN

[illegible]

SWITZERLAND

[illegible]

HONG KONG

[illegible]

JAPAN

[illegible]

SOUTH AFRICA

[illegible]

SPAIN

1983 High	1983 Low	Oct. 7	Price Pesetas
[illegible]			
367	208	Bco Vizcaya	306
149	106	Dragados	129
67.7	43.7	Hidrola	45
49	39.2	Iberduero	40.5
94.5	59	Petroleos	93
81	60.2	Telefonica	89

NOTES:—Prices on this page are as quoted on the individual exchanges and are last traded prices. § Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all.

*

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AMERICAN STOCK EXCHANGE CLOSING PRICES

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close

Continued from Page 25

[illegible]

NEW YORK CLOSING PRICES

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close

Continued from Page 25

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MLA Unit Trust Management Ltd
Old Queen St, SW1A 9JG. 01-222 8576

MLA Uts	183.5	192.8	....	2.70
MLA Int	29.8	31.0	....	0.81

The Money Market Trust
03 Qn Victoria St, EC4N 4ST. 01-236 0952

Call Fund	—	—	....	8.05
7 Day Fund	—	—	....	9.32

†Unauthorised—Sterling Deposit Fund.

Offshore and Overseas—continued

Actibonds Investment Fund SA
37 rue Notre Dam, Luxembourg. Tel 47671

Actibonds In	—	$10.92	...	—

Alliance Capital Management Intl Inc
62-03 Queen St, London EC4. 01-240 8361
Alliance International Dollar Reserves
Distribution Sept 19-25 (0.001663)
(6.00% pa)

Health Care Oct 5	$0.20	....	—
Technology Oct 5	$24 50	....	—
Quasar Oct 3	$61.83	...	—

Jardine Fleming & Co Ltd
46th Floor, Connaught Centre, Hong Kong.

Carr 68d	$12.05	—	....	0.3
(Accum)	$18.32	—	....	—
Ascan	$10.08	—	....	—
(Accum)	$10.00	—	....	—
American	$9.48	—	....	—
(Accum)	$9.46	—	....	—
Mgd Cur	$10.13	—	+0.02	8.50
(Accum)	$10.13	—	+0.02	0.50

Lazard Brothers & Co (Jersey) Ltd

GRE Intl Inv Mngt Ltd
PO Box 194 St Helier, Jersey. 0534 27441

ManCurFd	£10.20	—	....	—

Grindlay Henderson Mngt Ltd
PO Box 414, St Helier, Jersey. 0534 74248

Mgd Fdd	£10.4664	10.0807	−0.0024
Mgd Acc	£0 9329	10.4295	−0.0017
Stlg Fd	£10.2402	....	+0.0051
Stlg Acc	£10.1010	....	+0.0071
U.S. $ Fd	$20.4572	....	+0.0100
U.S. $ Acc	$20.3958	....	+0.0109
DMA	DM50.4306	....	+0.0082
SwFr	SwFr50.4102	....	+0.0055
Yen	5061	....	+2

Perpetual UT Managers (Jersey) Ltd
PO Box 456, St Helier, Jersey. 0534 74517

OffshrGrw	$1.112	1.183	....	2.0

Rothschild Asset Management (CI)
St Julian's Ct, St Peter Port, Guernsey. 0481 26741

QC International Reserves Ltd

Bel Francs	BFr864.63	+0.170	7.21
Canadian $	C$37.205	+0.005	8.10
D-Mark	DM51.110	+0.005	4.70
Dutch Guilder	DFl50.660	+0.005	4.65
French Franc	FFr165.825	+0.050	11.81
Italian Lire	L37.565	+14	15.10

Insurances—continued

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13 European countries are represented in this year's list. Britain leads with 233 followed by West Germany with 79, on down to Norway, Finland and Ireland with less than 6.

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FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

Abbey Unit Tst. Mngrs. (a)
1-3 St Paul's Churchyard EC4P 4DX 01-236 1833

High Income				
Gilts & Fixed Int.	114 4	121.1xd	+0.3	9.91
High Inc. Equity	51.2	55.1xd	+0.2	6 61
Capital Growth				
American Growth	104 1	111.9	+1.3	1.51
Assets & Emrg. Tc.	52.1	56 3	+0.3	3.32
Commodity & Engy	75 6	81.3xd	+0.1	2.05
General	84.8	91.7	−0.4	3.05
Japan	106.4	114.4xd	+1.3	0.18
UK Growth	50.5	54.9xd	+0.1	3.30
Acc. Units	70 2	76.3	+0.2	3.30
Worldwide Bond	136.2	146.4	+0.4	3.76
Equitas Prog	120.7	130.5	+0.4	3.30

Aitken Hume
1, Worship St., EC2 01-628 6626

American Tech Fd.	156.8	168.6	+0.6	0.10
Inc & Gwth Fd.	31.8	34.1	−0.1	5.3
Pacific Fd.	121.2	130.8	+1.2	1.20
Secure Income Fd.	101.5	109.1	....	7.7
Special Sits.	149.4	160 4		0.70
Energy Fd	216.2	232.4	+0.1	0 60
Exempt Fd	367.8	395.3		—
Small Co's Fd.	260.8	279 4xd	+1.1	2.20
Jap. Technology	50.8	54 6	+0.4	0.50

Aitken Hume Ltd. Deposit Rates.

Treasury Acct*	—	—	...	9.44
Mnthly Income Acct*	—	—	...	9 38

*Not Authorised U.T.—Bank Deposit.

Allied Hambro Ltd. (a) (g)
Hambro Hse., Hutton, Brentwood, Essex
Brentwood (0277) 211459 & 229123

Balanced Funds				
Allied 1st	118.2	126 6xd	−0.2	4.89
Brit. Inds. Fund	108 4	116.0	−0.2	4.83
Growth & Income.	73.0	78.1	+0.1	3.62
Allied Capital.	152.5	163.2xd	−1.1	2.62
Hambro Fund	207 2	221 7	+0.9	3.95

Britannia Gp. of Unit Trusts Ltd. (a)(c)(g)
Salisbury House, 31, Finsbury Circus, London EC2
01-638 0478/0479 or 01-588 2777
Britannia Viewpoint 01-673 0048

UK Specialist Funds				
Assets	152 9	164 9	+0 7	3 44
Recovery	56.9	61 4xd	−0.2	3 11
Smaller Cos	87.6	94.5xd	+0 2	1.77
Spec. Mkt. Sits.	72.2	77 8xd	−0 1	1.52
UK Blue Chip	50.4	54.3	+0 3	3.19
High Income Funds				
Nat High Inc.	101.6	109.5xd	+0.7	6.85
Extra Inc.	41.8	45.1	+0.1	8.72
Inc & Growth	108.7	117.2	+0.6	5.87
Gilt	27.0	28.4	...	9.30
Pref. Shares	17.8	18.3xd	+0.1	11.85
Sector Specialist Funds				
Commodity Shares	142.8	154.0	−0.3	1.45
Financial Secs.	144.2	155.5	+0.2	3.30
Gold & General†	26.3	28 6	−0.1	3.14
Inv. Tst. Shares	89 6	96.6	+0.2	1.61
Prop. Shares	26.6	28 7xd		2.41
Univ Energy	64.4	69.4	+0.1	0.99
World Tech.	51.7	55.7	+0.1	—
Overseas Funds				
American Growth	68.8	74.2	+1.0	1.83
Am. Smaller Cos.	23.4	25.2	+0.1	0.20
Am. Spec. Sits.	70.4	75.9	+0.9	1.26
Australian Growth	66.6	71.8xd	+0.4	1.21
Far East	33.3	35.9xd	+0.1	1.50
Hong Kg. Perfmnce.	12.6	13.8	+0.5	4.84
Intl. Growth	103.0	111.0	−0.2	1.60
Japan Perf. Tst.	30.1	32.4	+0.3	—
Japan Smlr Cos Tst	9.5	10.2	......	—
General Funds				
Capital Acc.	107.9	116.3	−0.5	2.94
Comm. & Ind.	83.0	89.5	−0.4	2.13
Domestic	70.5	76.0	+0.1	3.38
Growth	147.2	158.7	+0.9	1.34
Shield	76.2	82.2xd	+0.1	2.20
Exempt Funds				
Exempt	241.6	256.7	+0.3	4.56
Ex. Mkt. Ldrs	48.1	50.9	−0.3	3.63

Cater Allen High Int. Current Acc.

Deposit†	—	—	...	9.295

†Not authorised U.T.-Bank Deposit

INSURANCES

INSURANCE & OVERSEAS MANAGED FUNDS

Black Horse Life Ass. Co. Ltd.
71, Lombard St., EC3. 01-623 1288

Black Horse Man. Fd.	233.44		....	—
Managed Inv. Fd.	157.35	165.64	.....	—
Property Fd.	151.07	159.03	.....	—
Fixed Interest Fd.	147.14	154.89	.....	—
Cash Fd.	135.95	143.11	.....	—
Income Fd.	171.47	180.50	.....	—
Extra Income Fd.	162.17	170.71	.....	—
Worldwide Growth Fd.	231.62	243.82	.....	—
Balanced Fd.	172.42	181.50	.....	—
Smlr Co's & Recv. Fd	203.25	213.95	.....	—
Intl. Technology Fd	270.97	285.24	.....	—
Nth. Amer. & Gen. Fd.	160.28	179.14	.....	—
Energy Int. Fd.	107.69	113.36	.....	—
Pacific Basin Fund	132.41	139.38	.....	—

British National Life Assurance Co. Ltd.
Harlands Rd, Haywards Heath. 0444 414111

Managed	112.4	118.3	+0.3	—
Property	106.9	112.5	-0.2	—
Equity	114.6	120.6	+0.3	—
International	129.0	135.8	+0.3	—
Fixed Interest	101.7	107.1	+0.4	—
Deposit	99.1	104.3	+0.1	—
Managed Pen. Cap.	113.2	119.2	+0.2	—
Property Pens. Cap.	105.9	111.5	-0.3	—
Equity Pens. Cap.	109.5	115.3	+0.4	—
Intnl. Pens. Cap.	135.6	142.7	+0.2	—
Fixed Int. Pens. Cap.	99.5	104.7	+0.2	—
Deposit Pens. Cap.	97.3	102.3	+0.1	—

Canada Life Group
2-6, High St., Potters Bar, Herts. P. Bar 51122

Equity Gth Sept 29	94.5		.....	—
Rtmt. Fed. Aug 6	255.4		.....	—
Managed Pen Fund	180.4	189.9	.....	—
Property Pen Fund	113.7	119.7	.....	—
Index Lnkd Pen Fund	111.1	117.0	.....	—
Managed	121.6	128.1	+0.1	—
Property	104.0	109.5	+0.3	—
Gilt and Fixed Interest	106.0	111.6	+0.3	—

G.T. Management Ltd.
16 Finsbury Circus, Lond. EC2M 7DJ. 01-628 8131

G.T. Plan Bond Fund	124.3	130.9	.....	—
GT Pln High Yld Fnd	116.9	123.1	+0.3	—
GT Plan Far East Fnd	116.7	122.9	+1.2	—
GT Pln N Am Fund	142.9	150.5	-1.1	—
GT Pln UK&G.E. Fnd	131.9	138.9	+1.5	—
GT Pln Wrldwde Fnd	136.7	143.9	+0.7	—
GT Pension Bnd Fnd	133.2	140.3	+0.1	—
GT Pen High Yld Fd	133.3	140.4	+0.5	—
GT Pen Far East Fd	142.6	150.2	+1.8	—
GT Pen N. Am. Fd	210.1	221.2	-1.8	—
GT Pen UK & G.E. Fd	152.6	160.7	+1.2	—
GT Pen Worldwide Fd.	146.0	153.7	+0.6	—

Assicurazioni GENERALI S.p.A.
117, Fenchurch St., EC3M 5DY. 01-488 0733

Intl. Managed Bond	166.9	175.7	.....	—

General Portfolio Life Ins. C. Ltd.
Crossbrook St., Cheshunt, Herts. Waltham X 32971

Portfolio Fd. Acc.		249.3	.....	—
Portfolio Fd. Init.		206.7	.....	—
Portfolio Fd. Cap.		238.3	.....	—
Investment A'nts	249.2	262.4	.....	—

Gresham Unit Ass. Ltd.
2-6, Prince of Wales Rd. B'mouth. 0202 767655

Managed Fd.	272.3	286.6	.....	—
Money Fd	154.9	163.1	.....	—
Equity Fd.	232.9	245.4	.....	—
Fixed Int. Fd.	117.1	123.4	.....	—
Property Fd.	171.0	180.2	.....	—
Managed Pen. Fd.	248.0	261.3	.....	—
Equity Pension Fd	185.4	195.4	.....	—
Fixed Int. Pen. Fd	163.5	172.3	.....	—
High Yield Pen. Fd.	161.1	169.8	.....	—
Money Pension Fd	127.3	134.0	.....	—
Property Pension Fd.	126.9	133.7	.....	—

[illegible]

American & Gen. Fd.	263.4	277.4	+0.2	—

OFFSHORE AND OVERSEAS

WestAvon Secs (Guernsey) Ltd
PO Box 214, St Peter Port, Guernsey 0481 27768

Gilt & Option Fd.	£1.10	1.15	.....	2.50
US $ Option	$1.01	1.06	.....	—

World Wide Growth Management⊕
10a, Boulevard Royal, Luxembourg

Worldwide Gth Fd	$12.76		+0.03	—

Inv. Adv.: M. & G. Inv. Mngt., Ltd., London.

Wren Commodity Management Ltd.
10, St. George's St., Douglas IoM 0624 25015

Wren Com. Fund	24.6	25.6		—
Chinese Fund	65.1	67.8	-0.9	—
Precious Metal Fund	120.3	125.7		—
Vanguard Cmdy Fd.	37.3	39.3	+0.2	—
Financial Futures Fd.	82.2	85.6	+6.0	—
Wren Intl. Fnd.*	$0.493	0.513	-0.070	—

NOTES

Prices are in pence unless otherwise indicated and those designated $ with no prefix refer to U.S. dollars. Yields % (shown in last column) allow for all buying expenses. a Offered prices include all expenses. b Today's prices. c Yield based on offer price. d Estimated. g Today's opening price. h Distribution free of UK taxes. p Periodic premium insurance plans. s Single premium insurance. x Offered price includes all expenses except agent's commission. y Offered price includes all expenses if bought through managers. z Previous day's price. ¶ Guernsey gross. ⌀ Suspended. ♦ Yield before Jersey tax. † Ex-subdivision. ‡‡ Only available to charitable bodies. § Yield column shows annualised rate of NAV increase.

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INDUSTRIALS—Continued

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's	P/E
Mar May	Keep Trust 5p	11¾	20.9	‡0.15	—	‡	—
Feb. July	Kelsey Inds.	185	6.6	8.0	1.7	6.2	12.7
Nov April	Kershaw (A.) 5p	125	19.9	‡25.0	0.6	‡	(28.8)
Jan. Aug.	Kleen-E-Ze Hldgs.	78	18.7	3.0	◆	5.5	◆
Jan. Aug.	L.C.P. Hlds	92	20.6	3.6	1.2	5.6	(20.7)
Jan July	LDH Group	26	2.6	—	—	—	—
Oct. April	L.R.C. Int. 10p	109	1.8	h2.95	2.3	3.9	14.2
July-Dec.	Lanmer Hldgs. 10p	34	6.6	†1.3	1.8	5.5	13.2
Dec. May	Lawtex	34	17.81	—	—	—	—
Mar. Oct.	Lep Group 10p	470	4.7	17.5	0.5	5.3	65.2
Oct. July	Lilleshall 10p	34	9.5	d1.0	—	4.2	—
Jan Oct	Lon. & Liv. 10p	51	23.5	h2.75	3.5	7.7	4.6
Jan. Sept.	London & Midl'd	111xc	15.8	7.75	1.1	10.0	12.4
Jul. Dec.	Lon. & Nthn. Grp.	73	6.6	F4.2	◆	8.2	10.3
—	♥Lon. Prv. Health	26	—	—	—	—	13.8
Mar Oct	Longton Inds.	60	5.9	1.0	—	2.4	—
	Low & Bonar 50p	116	25.4	†5.0	2.8	6.3	(6.4)
—	MCD Group	45	—	u1.0	2.2	3.2	20.5
—	♥MMT Computing 5p	80	—	b1.68	2.6	3.0	18.6
June Dec.	M.Y. Dart. 10p	24	1.11	0.1	—	0.6	—
May Sept.	M'c'rthy Ph. 20p	153	15.8	7.0	2.7	6.5	7.2
Oct. May	Macfarlane Gp.	145	19.9	†3.52	2.1	3.5	17.7
July Nov.	Maclellan 20p	34xd	3.10	d1.5	1.6	6.3	12.2
Aug. Mar.	Macpherson (D.)	41½	18.7	4.2	0.6	14.5	(8.5)
Oct. Apr.	Magnolia Group	54½	19.9	2.3	3.2	6.0	6.4
Apr. Oct.	Man. Ship Can. £1	137	9.78	3.5	6.8	3.7	4.1
Oct Apr	Marley	77	15.8	†2.5	0.5	4.6	(33.7)
Feb. Oct.	Marling Ind. 10p	45½	1.8	1.08	1.7	3.4	(20.5)
Dec. Jan.	Marshall L'ey. 'A'	25	4.10	‡1.2	—	‡	—
Jan. July	Marshall's Univ	62	7.6	B—	—	—	12.3
Nov May	Martin-Black	29	5.79	—	—	—	—
—	♥Mathieson 7¾%	£85	30.6	Q7¾%	2.3	f9.7	—
Jan. June	Metal Box £1	254	20.6	11.55	1.8	6.5	(8.1)
Nov. June	Metal Closures	112	19.9	5.7	1.8	7.3	(7.3)
April Dec.	Metamec Jentique	10	15.3	‡0.5	—	‡	—
Dec. June	Mettoy	9	5.81	—	—	—	—
July Jan	♥Midland Mkts Grp	137	15.10	4.0	2.1	4.2	16.1
July Dec.	Moben Grp 1p	34	19.9	†0.19	15.4	0.8	8.5
Mar. Oct.	M'santo 5pc 82-6	£268	9.8	Q5%	—	f1.9	—
Jan. July	Morgan Crucible	120	6.6	†7.5	0.6	9.2	(9.5)
Jan. Aug.	Moss (Robt.) 10p	72	6.6	2.0	2.0	4.0	15.5
—	♥NMW Computers	212xd	3.10	4.0	4.0	2.7	13.1
Mar. Sept.	Nash Inds.	50	1.8	4.0	◆	11.8	◆
Oct. April	Neill&Sp'ncer10p	23	3.81	—	—	—	—
Oct. Apr.	New Equip 10p	53	19.9	1.35	6.8	3.2	6.8
April Oct.	Nolton	43	19.9	1.0	2.9	3.3	15.1
Jan. Aug.	Norcros	129	18.7	†7.0	2.2	7.8	8.7
Oct. April	Nu-Swift 5p	78	5.9	2.14	1.5	4.4	22.5
Feb. Aug.	Oakwood Grp.	100	18.7	d6.5	2.1	9.3	7.3
Jan. June	Office & Elect.	224	23.5	7.3	2.7	4.8	11.0
May Nov	Oriflame Intl SA	825xd	3.10	†Q50c	2.2	4.1	11.0
Jan. June	Overstone 12pc	34	23.5	Q3½c	2.8	6.0	6.0
May Nov.	Ozalid Fin. Cv.	£120½	11.4	Q9%	—	f7.7	—
	P. H. Industrials	71	1.8	5.0	2.0	10.1	5.7
April Oct.	Parker Knoll 'A'	201xd	3.10	8.5	—	6.0	◆
Feb. Aug.	Pauls & Whites	270	20.6	8.0	3.5	4.2	7.4
June Nov	Pearson(S.)& Son	368	19.9	†11.2	2.7	4.3	9.5
—	Peek Holdings	36	—	—	—	—	18.9
March	Peerless	93	5.9	6.3	1.4	9.7	(9.8)
June Nov.	Pentland 10p	62½	19.9	t†1.83	◆	4.2	◆
—	Pentlow 10p	50	—	—	—	—	—
Oct. July	Pentos 10p	13	15.9	B—	—	—	—
September	Phillips Patents	22	1.8	1.25	1.8	8.1	(8.1)
May Dec.	Photo-Me 50p	720	11.4	9.45	5.5	1.9	12.2
Feb. Aug.	Pilkington Br. £1	235	4.7	10.5	2.2	6.4	(8.1)
June Dec.	Pitn'y Bowes 1n.	£366	23.5	[illegible]	—	3.4	—
Sept. April	Plastic Const. 10p	29	1.8	d2.17	0.6	10.7	(13.9)
Jan. July	Platignum 5p	7½	17.5	B—	—	—	—
Feb Oct	Polly Peck 5p	£28	19.9	†d15.3	5.6	0.8	24.2

LEISURE—Continued

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's	P/E
—	GRA Group 5p	38½	—	—	—	—	49.3
May Nov	Grampian TVA 10p	56	25.4	3.6	2.9	9.6	4.4
May Oct.	HTV Non-Vtg	165xd	3.10	11.0	◆	9.5	◆
May Oct.	Horizon	133	5.9	†3.6	5.7	3.9	5.8
Jan Aug	Intasun 10p	142	18.7	4.0	4.5	4.0	6.5
	♥Interream Video 10p	29	—	1.0	2.1	3.6	14.8
—	Julianas Hldgs 2p	315	—	b4.9	2.4	2.2	22.7
Jan Dec	LWT "A"	164	11.4	11.08	1.1	9.6	13.2
Jan Jul	Lasermine Int 10p	57	19.9	g1.54	◆	3.9	◆
June Jan.	Mngmt. Ag. M. 10p	113	6.6	8.75	1.6	11.1	8.2
Apr. Dec.	Medminster 10p	55	21.3	†4.0	8.8	10.4	17.3
—	♥Miss World Grp 10p	157	5.9	b3.0	2.5	2.6	22.8
—	♥Nationwide 5p	19½	—	—	—	—	—
—	♥Nimslo Int 20c	38	—	—	—	—	—
Jan. Sept.	Norton Opax. 10p	118	1.8	t2.17	4.3	2.6	8.5
—	♥Owners Abroad	27½	11.4	0.5	4.5	2.6	12.3
June Nov	Photax (Lon.)	40	30.4	—	—	—	—
—	♥People Data S 10p	112	—	ud1.5	2.1	1.9	27.7
Sept. Apr.	Pleasurama 5p	313	1.8	t5.75	4.5	2.6	18.6
—	♥Radio City 'A' NV	128	31.12	q5.6	1.6	6.4	13.7
July Jan	Riley Leisure 10p	182	4.7	†3.95	1.7	3.1	25.1
Apr. Nov.	Saga Hols. 20p	90	11.4	d3.73	—	5.9	—
May Dec.	Samuelson Grp £1	390	15.2	u12.0	2.8	4.5	13.4
Dec May	Scott. TV 'A' 10p	104	25.4	7.35	2.2	10.1	6.4
—	♥SelecTV 10p	41	—	—	—	—	—
May Nov	TSW 5p	20	25.4	0.9	3.3	6.4	6.8
—	♥TVS N/Vtg 10p	70	—	—	—	—	38.5
—	♥Television Servs 10p	26½	—	b0.2	3.3	1.1	40.8
Oct Apr	Trid'nt TV 'A' 10p	100	18.7	†4.26	1.4	6.1	17.1
—	♥21st Century Dist	170	—	—	—	—	—
April Sept	Webb (Jos.) 5p	20½	15.8	d0.51	0.5	3.6	—
Apr. Nov.	Zetters 5p	78	19.9	3.10	◆	5.7	◆

MOTORS, AIRCRAFT TRADES

Motors and Cycles

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's	P/E
—	B.L. 50p	65	—	—	—	—	—
—	♥Coleman Milne 10p	56xd	19.9	†1.0	3.7	2.6	9.1
Mr.Je.S O.	Gen. Mts. Units	215	8.8	Q12c	—	3.7	—
Nov	Honda Motor Y50	282	11.81	Q11%	9.1	1.1	20.8
—	Lotus Car 10p	63	9.11	—	—	—	—
—	♥Reliant Motor 10p	21	31.12	—	—	—	5.6
May	Volvo Kr50	£37	26.5	uQ20%	2.3	2.4	18.6

Commercial Vehicles

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's	P/E
Feb. Aug.	E.R.F. (Hldgs.)	42	5.7	B—	—	—	—
Jan. May	Plaxtons (GB)	172	20.6	8.5	1.4	7.1	13.5
July Oct.	York Trailer 10p	25	12.5	B—	—	—	—

Components

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's	P/E
July Jan.	A.E.	55	17.1	‡‡1.4	4.2	‡	7.1
Feb Oct	♥Aerospace Eng.	165	19.9	d9.75	1.7	8.4	10.0
Mar. Sept.	Abbey Panels	54	1.3	—	—	—	18.2
Jan July	Airflow Stream	22	20.6	0.75	3.9	4.9	7.6
May Nov.	Armst'ng Eq. 10p	22xd	3.10	0.1	—	0.6	—
June Sept	Automotive	35	19.9	0.5	—	2.0	—
Aug. Mar.	Bluemel Bros.	17	12.80	—	—	—	—
Apr. Sept.	Dowty 50p	107	15.8	3.9	3.0	5.2	8.0
Jan. July	Dunlop 50p	54	15.11	‡2.0	—	‡	—
Jan. July	Flight Refuelling	215	23.5	h2.01	3.8	1.3	16.0
Jan. June	Hmn.Smith 10p	41	23.5	0.5	5.1	1.7	16.0
Sept Dec	Kwik-Fit Hldgs. 10p	56	23.5	1.5	1.6	3.8	23.5
May Dec.	Lucas Inds. £1	147	11.4	8.6	0.8	8.4	(23.3)
April	Solex A 50p	75	23.4	4.3	—	8.2	—
Oct. July	Supra Group 10p	33	5.9	1.9	—	8.2	—
—	♥Technolux SA Fr100	£230	—	uFr150	2.0	5.4	9.5
Feb. Aug.	Woodhead (J.)	31	4.7	0.1	—	0.5	—

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MINES—continued

Australians

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's
—	♥ACM 20c	19	—	—	—	—
—	Allstate Expln NL	42	—	—	—	—
—	♥Australis Mng. NL	27	—	—	—	—
—	Balmoral Resources	19	—	—	—	—
—	♥Black Hill Mns.	44	—	—	—	—
—	♥Bond Corp.	78	—	Q10c	◆	7.7
Nov. Apr.	♥Bougainville 1 Kina	144	11.3	[illegible]	1.2	1.5
May Nov	♥CRA 50c	338	11.3	tQ3c	—	0.3
—	♥Carr Boyd 20c	72	—	—	—	—
—	♥Central Kalgoorlie	35	—	—	—	—
—	♥Central Pacific	30	—	—	—	—
—	♥Cons Gold Mng Areas	3½	—	—	—	—
—	♥Coopers Res N.L.	10½	—	—	—	—
—	♥Crusader Oil	225	—	—	—	—
—	♥Cultus Pac NL	15	—	—	—	—
—	♥Eagle Corp 10c	15	5.9	—	—	—
—	♥Emperor Mines	182	—	—	—	—
—	♥Endeavour 20c	10¾	—	—	—	—
—	♥Enterprise Gld Mines	28	—	—	—	—
Apr Oct	♥GM Kalgoorlie 25c	608	28.9	hQ10c	◆	1.0
—	Grt. Eastern Mines	17	—	—	—	—
—	♥Great Victoria Gold	11	—	—	—	—
—	♥Haoma NW	23	—	—	—	—
—	♥Hill Minerals N.L.	40	—	—	—	—
—	♥Intnl Mining	22	—	—	—	—
—	♥Ivanhoe Gld. N.L.	13½	—	—	—	—
—	♥Jingellic Minerals	58	—	—	—	—
—	♥Kalbara Min 20c	21	—	—	—	—
—	♥Keywest Expl.	19	—	—	—	—
—	♥Kitchener NL 25c	94	—	—	—	—
—	♥Meekatharra 25c	92	—	—	—	—
—	♥Metals Ex 50c	53	14.9	—	—	—
—	♥Metramar Mns 20c	33	—	—	—	—
Oct. Apr	♥MIM Hldgs 50c	233	12.2	Q5c	◆	1.2
—	♥Mincorp 20c	15	—	—	—	—
—	♥Minefields Expl 25c	4	—	—	—	—
—	♥Newmetal 20c	36	—	—	—	—
June Nov	♥North B. Hill 50c	193	19.11	Q8c	◆	2.4
—	Nth. Kalgurli	66	—	—	—	—
May Nov.	♥Oakbridge 50c	72	30.4	Q7c	1.7	5.7
—	Otter Expln NL	43	—	—	—	—
—	♥Pacific Copper	77	—	◆	—	—
—	♥Pancont'l 25c	88	—	—	—	—
—	Pan Pacific Pets NL	9	—	—	—	—
—	Paringa Mng & Expln 5p	66	—	—	—	—
Apr. Oct.	♥Peko-Wallsend 50c	410	15.3	Q5c	◆	0.7
—	♥Pelsart Res NL	8	—	—	—	—
—	♥Renison 50c	252	—	Q10c	◆	2.3
—	♥Do Defd	235	—	—	—	—
—	Samantha Explor NL	59½	—	—	—	—
—	Samson Explor NL	38	—	—	—	—
—	♥Selcrust 50c	67	—	—	—	—
—	♥Sons of Gwalia N.L.	46	—	—	—	—
—	♥Sthn. Goldfields	19	—	—	—	—
—	♥Southern Pacific	13	—	—	—	—
—	♥Southern Ventures 25c	9	—	◆	—	—
—	♥Swan Res 20c	22	—	—	—	—
—	♥United Goldfields	42	—	—	—	—
—	♥West Coast 25c	12½	—	—	—	—
—	♥Western Cont. 50c	16	—	—	—	—
Oct. May	Westn. Mining 50c	240xd	3.10	Q2c	—	‡
—	♥Whim Creek 20c	166	—	—	—	—
—	♥York Resources	24	—	—	—	—

Tins

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's
Apr. Nov.	Ayer Hitam $M1	210	21.3	‡Q95c	1.0	‡
—	Geevor	125	6.80	—	—	—
—	Gold & Base 12½p	11	10.74	—	—	—
July Jan.	Gopeng Cons.	400	25.4	20.0	1.4	7.1
Mar Aug	Hongkong	575	6.80	21.0	◆	5.2
June July	Jantar 12½p	16	6.6	1.5	0.2	13.4
September	Kamunting $M0.50	225	7.12	hQ27½c	0.8	3.3
Jan June	Malaysia Mng. 10c	68	20.6	vQ11c	0.9	4.7
—	♥Pahang	45	27.11	—	—	—
—	Pengkalen 10p	500	11.4	1.0	—	0.3
June. Jan.	Petaling $M1	320	7.3	vQ60c	1.3	5.3
Jan. Aug.	Sungei Besi $M1	215	5.9	tvQ185c	1.1	‡
—	♥Supreme Corp M$1	50	9.74	vhQ3½c	◆	2.2
—	Tanjong 15p	120	15.6	g3.3	—	4.2
Sept. Mar.	♥Tongkah H. Tin $M1	135	21.5	vQ5c	1.3	1.1
Oct. June	Tronoh $M1	260xd	3.10	vQ90c	1.1	9.8

Miscellaneous

Dividends Paid	Stock	Price	Last xd	Div Net	C'vr	Y'ld Gr's
—	Admiral Mines	60	—	—	—	—
—	♥Anglo-Dominion	65	—	—	—	—
—	♥Anglo Utd. Dev.	70	—	—	—	—
—	♥Colby Res Corp.	150	—	—	—	—
Aug. Feb.	Cons. Murch. 10c	460	4.7	‡Q60c	1.9	‡
Sept-Feb	Hampton Areas 10p	222	18.7	3.75	2.1	2.3
—	♥Highwood Res	195	—	—	—	—
—	Homestake Mining $1	£20⅛	3.8	Q20c	—	0.7
—	Northgate C$1	325	9.77	—	—	—
Jan. July	R.T.Z.	572	9.5	t17.0	2.9	4.3
Jan July	Do.9½%Cn.Un.Ln.'95-2000	£128½	9.5	Q9½%	32.5	f7.5
—	♥Sabina Inds C$1	75	—	—	—	—
	For Southwest Res see Oil & Gas					
—	♥Tara Expln $1	700	—	—	—	—

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures. P/Es are calculated on "net" distribution basis, earnings per share being computed on profit after taxation and unrelieved ACT where applicable; bracketed figures indicate 10 per cent or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution; this compares gross dividend costs to profit after taxation, excluding exceptional profits/losses but including estimated extent of offsettable ACT. Yields are based on middle prices, are gross, adjusted to ACT of 30 per cent and allow for value of declared distribution and rights.

- ● "Tap" Stock.
- * Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- † Interim since increased or resumed.
- ‡ Interim since reduced, passed or deferred.
- ‡‡ Principal and interest tax-free to non-residents on application.
- ◆ Figures or report awaited.
- ♥ Not officially UK Listed; dealings permitted under Rule 163(4)(a).
- ✣ USM, not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- †† Dealt in under Rule 163(3).
- ¥ Price at time of suspension.
- ¶ Indicated dividend after pending scrip and/or rights issue: cover relates to previous dividend or forecast.
- ◆ Merger bid or reorganisation in progress.
- ✣ Not comparable.
- ◆ Same interim: reduced final and/or reduced earnings indicated.
- § Forecast dividend; cover on earnings updated by latest interim statement
- ‡ Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.
- ☆ Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- ¶ No par value.

B.Fr. Belgian Francs. Fr. French Francs. ¢¢ Yield based on assumption Treasury Bill Rate stays unchanged until maturity of stock. a Tax free. b Figures based on prospectus or other official estimate. c Cents. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast dividend: cover based on previous year's earnings. v Subject to local tax. x Dividend cover in excess of 100 times. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. E Minimum tender price. F Dividend and yield based on prospectus or other official estimates for 1983-84. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1984. K Figures based on prospectus or other official estimates for 1982-83. M Dividend and yield based on prospectus or other official estimates for 1983. N Dividend and yield based on prospectus or other official estimates for 1982-83. P Figures based on prospectus or other official estimates for 1982. Q Gross. T Figures assumed. Z Dividend total to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xf ex capital distribution.

REGIONAL AND IRISH STOCKS

The following is a selection of regional and Irish stocks, the latter being quoted in Irish currency

Stock	Price		IRISH	Price	
			Nat. 9¾% 84/89	£87¼	+⅛
			Fin. 13% 97/02	£95½	+⅛
			Alliance Gas	88	.....
Albany Inv. 20p	64	.....	Arnott	205	.....
Bdg'wtr. Est. 50p	285xd	.....	Carroll (P.J.)	104	−1
Craig & Rose £1	£10½	.....	Concrete Prods.	75	.....
Finlay Pkg. 5p	37xd	.....	Heiton (Hldgs.)	17	.....
Higsons Brew.	88	.....	Irish Ropes	37	+4
Holt (Jos) 25p	910	.....	Jacob	81	.....
I.O.M. Stm. £1	130	.....	T.M.G.	85	.....
Pearce (C. H.)	475	.....	Unidare	74	.....

For Craig see Shipping

OPTIONS

3-month Call Rates

Industrials					
		House of Fraser	28	Utd Drapery	22
Allied-Lyons	13	I.C.I.	45	Vickers	12
BOC Grp.	20	"Imps"	11	Woolworth Hld.	30
B.S.R.	20	I.C.L.	7		
Babcock	15	Ladbroke	22	**Property**	
Barclays Bank	45	Legal & Gen.	45	Brit. Land	8½
Beecham	32	Lex Service	32	Cap. Counties	14
Blue Circle	45	Lloyds Bank	48	Land Sec.	28
Boots	16	"Lots"	4	MEPC	28
Bowaters	22	London Brick	10	Peachey	16
Brit. Aerospace	19	Lucas Inds.	15	Samuel Props.	11
B.A.T.	24	"Mams"	14	Town & City	4
Brown (J.)	3½	Mrks. & Spncr	20		
Burton Ord.	35	Midland Bank	40	**Oils**	
Cadburys	13	N.E.I.	10	Brit. Petroleum	38
Courtaulds	10	Nat. West. Bank	55	Burmah Oil	17
Debenhams	14	P & O Dfd.	21	Charterhall	9
Distillers	20	Plessey	19	KCA	6
Dunlop	6	Racal Elect.	20	Premier	6
Eagle Star	45	R H M	7	Shell	55
F.N.F.C.	5½	Rank Org. Ord.	20	Tricentrol	22
Gen. Accident	42	Reed Intnl.	32	Ultramar	65
Gen. Electric	18	Sears	8		
Glaxo	75	T I	13	**Mines**	
Grand Met.	30	Tesco	17	Charter Cons.	28
G.U.S. "A"	50	Thorn EMI	55	Cons. Gold	58
Guardian	45	Trusthouse	16	Lonrho	9
G K N	16	Turner & Newall	7	Rio T. Zinc	62
Hawker Sidd.	28	Unilever	70		

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CURRENCIES, MONEY and CAPITAL MARKETS

FOREIGN EXCHANGES

Dollar may be at a turning point

BY COLIN MILLHAM

It is always difficult to decide the time when a critical point in a currency's fortune occurs. Early October may be remembered as the moment when the dollar finally succumbed to economic factors, such as the large U.S. balance of payments deficit, and took less notice of highly volatile figures like the U.S. M1 money supply.

U.S. traders have previously been reluctant to sell their own currency in spite of attempts in Europe to mark the dollar down on economic factors, but now seem keen to lead the way, particularly on the Chicago futures market.

The sliding dollar hit certain chart points as far as the IMM in Chicago was concerned, and this prompted more selling, leading to dangers of a vicious circle, although dealers in the Far East and Europe were often reluctant to continue the trend. This partly reflected fears of a reversal when the U.S. market opened once again, but also pointed to rumours of a possible cut in the Bank of Japan discount rate to 5 per cent from 5½ per cent, and the reduction of ½ per cent to 9 per cent in London clearing bank base rates.

A rise of $2.3bn in M1 money supply the previous week was larger than expected, but unlike earlier figures failed to generate too much concern, as M1 remained within the Federal Reserve's target range, and was expected to show a fall of up to $1bn last Friday.

The Federal open market committee met, and traders looked for signs of easier monetary policy, but the large injection of liquidity on Thursday and Friday was probably a technical manoeuvre, since the Federal funds rate remained firm above 9 per cent.

Problems in the Lebanon tended to fade into the background, and the market failed to respond to growing fears about the debts of Brazil and Argentina.

Sterling lost ground against Continental currencies and the yen, partly on threats to oil prices caused by high stocks and overproduction, but the pound finished firmer in terms of the dollar despite the unexpected timing of lower bank base rates.

FORWARD RATES AGAINST STERLING

	Spot	1 month	3 month	6 month	12 month
Dollar	1.5108	1.5108	1.5112	1.5120	1.5143
D-Mark	3.87	3.8563	3.8363	3.8054	3.7514
French Franc	11.8725	11.9238	12.0688	12.2928	12.6617
Swiss Franc	3.15	3.1338	3.1088	3.0709	2.9957
Japanese Yen	348.0	347.1	345.7	343.4	338.8

EMS EUROPEAN CURRENCY UNIT RATES

	ECU central rates	Currency amounts against ECU October 7	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc	44.9008	45.8659	+2.15	+1.82	±1.5447
Danish Krone	8.14104	8.13327	−0.10	−0.43	±1.6425
German D-Mark	2.24184	2.24833	+0.29	−0.04	±1.0842
French Franc	6.87456	6.90127	+0.39	+0.06	±1.4052
Dutch Guilder	2.52595	2.52529	−0.03	−0.36	±1.4864
Irish Punt	0.72569	0.726403	+0.10	−0.23	±1.6699
Italian Lira	1403.49	1368.21	−2.51	−2.51	±4.1505

Changes are for ECU, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

BANK OF ENGLAND TREASURY BILL TENDER

	Oct. 7	Sept. 23		Oct. 7	Sept. 23
Bills on offer	£100m	£100m	Top accepted rate of discount	8.8442%	9.0047%
Total of applications	£488m	£576m	Average rate of discount	8.8369%	8.9826%
Total allocated	£100m	£100m	Average yield	9.04%	9.19%
Minimum accepted bid	£97.795	£97.755	Amount on offer at next tender	£100m	£100m
Allotment at minimum level	70%	3%			

OTHER CURRENCIES

Oct. 7	£	$		£ Note Rates
Argentina Peso	30.25-30.45	13.547-13.667	Austria	27.05-27.30
Australia Dollar	1.6460-1.6480	1.0930-1.0955	Belgium	80.10-80.90
Brazil Cruzeiro	1,132.25-1,138.25	754.0-758.0	Denmark	13.94-14.06
Finland Markka	8.4430-8.4750	5.6120-5.6140	France	11.83-11.95
Greek Drachma	138.05-139.55	91.70-93.00	Germany	3.85-3.89
Hong Kong Dollar	18.60½-18.72½	8.57-8.44	Italy	2325-2370
Iran Rial	128.10*	86.05*	Japan	347-350
Kuwait Dinar (KD)	0.4355-0.4370	0.2895-0.2900	Netherlands	4.33-4.37
Luxembourg Fr.	78.90-79.00	52.55-52.57	Norway	10.88-10.98
Malaysia Dollar	3.5250-3.5350	2.3400-2.3420	Portugal	182-195
New Zealand Dlr.	2.2645-2.2695	1.5035-1.5055	Spain	217-228
Saudi Arab. Riyal	5.2420-5.2480	3.4810-3.4830	Sweden	11.57-11.67
Singapore Dollar	3.2076-3.2175	2.1310-2.1330	Switzerland	3.18¼-3.19¼
Sth. African Rand	1.6820-1.6840	1.1135-1.1150	United States	1.48-1.61
U.A.E. Dirham	5.6285-5.6355	3.6710-3.6730	Yugoslavia	180-186

* Selling rates.

CURRENCY MOVEMENTS

Oct. 7	Bank of England Index	Morgan Guaranty Changes%
Sterling	83.3	−8.1
U.S. dollar	125.1	+13.9
Canadian dollar	91.8	+1.0
Austrian schilling	118.6	+5.6
Belgian franc	91.1	−11.6
Danish kroner	80.7	−5.2
Deutsche mark	127.9	+8.5
Swiss franc	153.0	+13.4
Guilder	117.1	+5.2
French franc	67.6	−14.5
Lira	50.0	−11.6
Yen	153.7	+11.3

Morgan Guaranty changes: average 1980-1982=100. Bank of England Index (base average 1975=100).

CURRENCY RATES

Oct 7	Bank rate %	Special Drawing Rights	European Currency Unit
Sterling	—	0.710335	0.581010
U.S. $	9½	1.06550	0.873137
Canadian $	0.45	*	1.07396
Austria Sch	3¾	19.2951	15.8125
Belgian F	8	55.0920	45.8659
Danish Kr.	7½	9.94111	8.13327
D mark	4	2.74313	2.24833
Guilder	5	3.07983	2.52529
French F.	9½	8.41318	6.90127
Lira	17	1669.64	1368.21
Yen	5½	248.155	201.826
Norwgn Kr.	8	7.76377	6.36211
Spanish Pta	—	160.177	131.381
Swedish Kr	8½	8.25336	6.76410
Swiss Fr	4	2.22498	1.82555
Greek Dr'ch	20½	98.1750	80.4508

* C$/SDR rate for Oct 6: 1.30758.

THE POUND SPOT AND FORWARD

Oct 7	Day's spread	Close	One month	% p.a.	Three months	% p.a.
U.S.	1.4965-1.5110	1.5100-1.5110	par-0.05c dis	−0.20	0.05-0.10dis	−0.20
Canada	1.8430-1.8545	1.8525-1.8535	0.05c pm-0.05 dis	—	0.05pm-0.05dis	—
Nethlnd.	4.33¾-4.35½	4.34¾-4.35¼	1¾-1¼c pm	3.79	3½-3¼ pm	3.22
Belgium	79.75-79.35	78.90-79.00	par-10c dis	−0.76	7-17 dis	−0.61
Denmark	13.97½-14.01½	13.98¼-13.99¼	2.40-3.46ore dis	−2.51	4.66-5.65dis	−1.48
Ireland	1.2000-1.2500	1.2485-1.2495	0.30-0.40p dis	−6.36	0.85-1.00dis	−2.96
W. Ger.	3.86-3.88	3.86½-3.87½	1½-1¼pf pm	4.26	3½-3¼ pm	3.49
Portugal	185.00-187.00	186.00-186.50	225-530c dis	−24.32	755-965dis	−17.39
Spain	224.70-226.65	226.20-226.40	260-315c dis	−14.98	720-840dis	−13.79
Italy	2350-2363	2356-2368	18½-20½ lire dis	−9.93	52-57 dis	−9.25
Norway	10.92-10.97	10.94¾-10.95¾	3.40-4.10ore dis	−4.11	10.40-11.15d	−3.93
France	11.85-11.88	11.86½-11.87½	4½-5½c dis	−5.19	18¾-20½dis	−6.61
Sweden	11.60½-11.66½	11.64½-11.65½	1.40-1.95ore dis	−1.72	6.40-7.00dis	−2.30
Japan	346¾-348¾	347½-348½	0.95-0.76y pm	2.93	2.36-2.15 pm	2.59
Austria	27.14-27.30	27.25-27.30	9¾-7¾gro pm	3.82	24½-19½ pm	3.23
Switz.	3.13-3.16½	3.14½-3.15½	1⅞-1¼c pm	6.19	4¾-3⅞ pm	5.24

Belgian rate is for convertible francs. Financial franc 81.00-81.10. Six-month forward dollar 0.13-0.18c dis, 12-month 0.33-0.43c dis.

THE DOLLAR SPOT AND FORWARD

Oct 7	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	1.4965-1.5110	1.5100-1.5110	par-0.05c dis	−0.20	0.05-0.10dis	−0.20
Ireland†	1.2000-1.2060	1.2050-1.2060	0.34-0.30c pm	3.19	0.88-0.80 pm	2.79
Canada	1.2292-1.2310	1.2295-1.2300	0.04-0.01c pm	0.24	0.08-0.05 pm	0.21
Nethlnd.	2.8850-2.8965	2.8855-2.8875	0.99-0.89c pm	3.90	2.55-2.45 pm	3.46
Belgium	52.46-52.65	52.55-52.57	½c pm-1½ dis	−0.11	4-7 dis	−0.42
Denmark	9.2860-9.3320	9.2875-9.2925	2.15-2.65ore dis	−3.08	3.25-3.75dis	−1.50
W. Ger.	2.5600-2.5825	2.5640-2.5660	0.94-0.89pf pm	4.27	2.38-2.33 pm	3.67
Portugal	123.50-124.00	123.70-124.00	150-350c dis	−24.24	500-900dis	−22.63
Spain	149.80-150.50	150.15-150.25	170-210c dis	−15.16	500-600dis	−14.63
Italy	1565½-1571	1566¾-1567¼	13-13¾ lire dis	−10.24	35½-36½dis	−9.25
Norway	7.2720-7.2940	7.2725-7.2775	2.70-3.00ore dis	−4.69	7.10-7.40dis	−3.98
France	7.8650-7.9150	7.8645-7.8695	2.90-3.20c dis	−4.64	11.70-12.20d	−6.06
Sweden	7.7360-7.7500	7.7375-7.7325	1.40-1.60ore dis	−2.32	4.45-4.65dis	−2.35
Japan	230.50-232.25	230.60-230.70	0.63-0.58y pm	3.14	1.86-1.61 pm	2.83
Austria	18.02-18.12	18.03-18.04	6.20-5.60gro pm	3.91	15-13 pm	3.09
Switz.	2.0800-2.0925	2.0845-2.0855	1.15-1.10c pm	6.46	2.89-2.84 pm	5.49

† UK and Ireland are quoted in U.S. currency. Forward premiums and discounts apply to the U.S. dollar and not to the individual currency. Belgian rate is for convertible francs. Financial franc 53.65-53.70.

EXCHANGE CROSS RATES

Oct. 7	Pound St'rling	U.S. Dollar	Deutschem'k	Japanese Yen	French Franc	Swiss Franc	Dutch Guild	Italian Lira	Canada Dollar	Belgian Franc
Pound Sterling	1.	1.511	3.870	348.0	11.873	3.150	4.348	2357.	1.853	78.95
U.S. Dollar	0.662	1.	2.562	230.4	7.860	2.085	2.878	1560.	1.227	52.27
Deutschemark	0.258	0.390	1.	89.92	3.068	0.814	1.123	609.0	0.479	20.40
Japanese Yen 1,000	2.874	4.341	11.12	1000.	34.12	9.052	12.49	6773.	5.325	226.9
French Franc 10	0.842	1.272	3.260	293.1	10.	2.653	3.662	1985.	1.561	66.50
Swiss Franc	0.317	0.480	1.229	110.5	3.769	1.	1.380	748.3	0.588	25.06
Dutch Guilder	0.230	0.347	0.890	80.06	2.731	0.725	1.	542.2	0.426	18.16
Italian Lira 1,000	0.424	0.641	1.642	147.6	5.037	1.336	1.845	1000.	0.786	33.50
Canadian Dollar	0.540	0.815	2.089	187.9	6.407	1.700	2.346	1272.	1.	42.61
Belgian Franc 100	1.267	1.913	4.902	440.8	15.04	3.990	5.507	2985.	2.347	100.

FINANCIAL FUTURES

LONDON

THREE-MONTH EURODOLLAR $1m points of 100%

	Close	High	Low	Prev
Dec	90.43	90.47	90.41	90.42
March	90.10	90.15	90.10	90.09
June	89.86	89.90	89.85	89.85
Sept	89.58	—	—	89.58
Dec	89.34	—	—	89.32

Volume 1,090 (2,349)
Previous day's open int. 7,150 (6,976)

THREE-MONTH STERLING DEPOSIT £250,000 points of 100%

	Close	High	Low	Prev
Dec	90.75	90.77	90.74	90.72
March	90.48	90.51	90.47	90.44
June	90.27	90.27	90.25	90.22
Sept	90.02	90.02	90.00	89.97
Dec	90.00	—	—	89.33

Volume 439 (1,071)
Previous day's open int. 5,149 (5,125)

20-YEAR 12% NOTIONAL GILT £50,000 32nds of 100%

	Close	High	Low	Prev
Dec	107-23	107-28	107-14	107-19
March	107-10	—	—	107-05
June	106-26	—	—	106-23
Sept	106-14	—	—	106-09
Dec	106-00	—	—	105-27

Volume 1,773 (2,268)
Previous day's open int. 2,986 (3,219)
Basis quote (clean cash price of 13¼ Treasury 2003 less equivalent price of near futures contract) 12 to 22 (32nds)

STERLING £25,000 $ per £

	Close	High	Low	Prev
Dec	1.5068	1.5070	1.4977	1.4930
March	1.5077	—	—	1.4940
June	1.5087	—	—	1.4950

Volume 274 (673)
Previous day's open int. 1,374 (1,112)

DEUTSCHE MARKS DM 125,000 $ per DM

	Close	High	Low	Prev
Dec	0.3923	0.3923	0.3900	0.3905
March	0.3956	0.3956	0.3937	0.3938
June	0.3989	—	—	0.3972

Volume 194 (496)
Previous day's open int. 791 (466)

SWISS FRANCS SwFr 125,000 $ per SwFr

	Close	High	Low	Prev
Dec	0.4840	0.4840	0.4828	0.4822
March	0.4903	—	—	0.4886
June	0.4965	—	—	0.4947

Volume 29 (18)
Previous day's open int. 132 (128)

JAPANESE YEN Y12.5m $ per Y100

	Close	High	Low	Prev
Dec	0.4354	0.4354	0.4333	0.4325
March	0.4385	—	—	0.4358
June	0.4420	—	—	0.4391

Volume 28 (151)
Previous day's open int. 151 (204)

CHICAGO

U.S. TREASURY BILLS (IMM) $1m points of 100%

	Last	High	Low	Prev
Sept	90.36	90.36	90.31	91.28
Dec	91.21	91.28	91.16	90.86
Dec	91.21	91.28	91.16	90.86
March	90.84	90.87	90.79	90.59
June	90.58	90.58	90.54	90.36
Sept	89.56	89.56	89.56	90.13
Dec	90.14	90.14	90.10	89.94
March	89.94	89.94	89.90	89.75
June	89.74	89.74	89.72	89.57

U.S. TREASURY BONDS (CBT) 8% $100,000 32nds of 100%

	Last	High	Low	Prev
Dec	69-02	69-07	69-00	73-09
March	69-05	69-09	69-08	72-22
June	67-14	67-20	67-12	72-09
Sept	66-28	67-00	66-28	71-29
Dec	66-14	66-16	66-14	71-19
March	—	—	—	71-11
June	65-24	65-28	65-24	71-04
Sept	65-16	65-16	65-18	70-30
Dec	—	—	—	—
March	—	—	—	—
June	—	—	—	—

CERT. DEPOSIT (IMM) $1m points of 100%

	Last	High	Low	Prev
Dec	90.56	90.60	90.52	90.59
March	90.17	90.18	90.13	90.17
June	89.89	89.90	89.85	89.88
Sept	89.62	89.62	89.58	89.80
Dec	—	—	—	—
March	—	—	—	—

THREE-MONTH EURODOLLAR (IMM) $1m points of 100%

	Last	High	Low	Prev
Dec	90.15	90.19	90.11	90.18
March	89.81	89.84	89.77	89.83
June	89.56	89.58	89.53	89.58
Sept	89.30	89.30	89.26	89.28
Dec	89.03	89.03	89.00	89.02
March	88.77	—	—	88.77

STERLING (IMM) $s per £

	Last	High	Low	Prev
Dec	15125	[illegible]	0	1.5035
Mar	15130	5190	5015	1.5040
June	15185	5185	5015	1.5050
Sept	15195	5250	5080	1.5045
$1m points of 100%	0	0	0	1.5060

GNMA (CBT) 8% $100,000 32nds of 100%

	Last	High	Low	Prev
Dec	71-09	71-18	71-09	69.04
Mar	71-01	71-09	71-01	68.07
June	70-26	71-01	70-26	67.16
Sept	70-20	0	0	66.30
Dec	0	0	0	66.16
Mar	0	0	0	—
June	0	0	0	65.26
Sept	71-09	71-16	71-09	65.18

WEEKLY CHANGE IN WORLD INTEREST RATES

	Oct. 7	change		Oct. 7	change
LONDON			NEW YORK		
Base rates	9	−½	Prime rates	11	Unch'd
7 day Interbank	9⅛	−⅛	Federal funds	9⅛	−1⅛
3 mth Interbank	9⅜	−⅛	3 Mth. Treasury Bills	8.59	−0.16
Treasury Bill Tender	8.8369	−0.1311	6 Mth. Treasury Bills	8.77	−0.11
Band 1 Bills	9⅛	−½	3 Mth. C D	9.16	−0.05
Band 2 Bills	9	−½	FRANKFURT		
Band 3 Bills	8⅞	−½	Lombard	5.50	Unch'd
3 Mth. Treasury Bills	8⅞	−⅛	One Mth. Interbank	5.770	Unch'd
1 Mth. Bank Bills	9⅛	−⅛	Three month	6.125	−0.06
3 Mth. Bank Bills	8⅞	−⅛	PARIS		
TOKYO			Intervention Rate	12.25	Unch'd
One month Bills	6.71676	−0.0625	One Mth. Interbank	12.6875	+0.1875
Three month Bills	6.84375	Unch'd	Three month	12.6875	+0.125
BRUSSELS			MILAN		
One month	9	+½	One month	17½	Unch'd
Three month	9⅛	+⅛	Three month	17⅛	Unch'd
AMSTERDAM			DUBLIN		
One month	5⅜	Unch'd	One month	12⅝	Unch'd
Three month	5⅞	−⅛	Three month	12⅝	Unch'd

London—band 1 bills mature in up to 14 days, band 2 bills 15 to 33 days, and band 3 bills 34 to 63 days. Rates quoted represent Bank of England buying or selling rates with the money market. In other centres rates are generally deposit rates in the domestic money market and their respective changes during the week. Band 4 bills 9⅞.

"The optimism I expressed at the last Annual General Meeting has been more than justified, with profit before taxation climbing to a half-year level of £4.1 million. This compares with £1.1 million in the first six months and £3.2 million in the whole of 1982. An interim dividend of 2.5p per share (1982: 2p per share) has been declared.

Group auction sales have improved by 40% to £119 million (£85 million in the first half of 1982).

The Group continues to give high priority to controlling expenditure and in the period under review, Group expenditure after allowing for the variation in currency rates has increased by just over 5%.

The regeneration of confidence in the International Art Market which has been under way for some twelve months is continuing. In every part of the world where we operate there are encouraging signs of an upturn in business. While forecasting results of auction sales can prove a hazardous occupation, I am confident that we will have another good Autumn season resulting in an overall record for 1983."

(Extract from the Chairman's statement 4 October 1983)

J A Floyd CHAIRMAN

INTERIM STATEMENT

Consolidated Profit and Loss Account for the period ended 30 June 1983

£000	6 Months to 30.6.83 Unaudited	6 Months to 30.6.82 Unaudited	12 Months to 31.12.82
Turnover	21,152	16,324	35,076
Profit before taxation	4,126	1,122	3,191
Profit after taxation	1,661	492	1,155
Earnings per share	7.96p	2.39p	5.45p

CHRISTIE'S INTERNATIONAL

8 King Street, St James's, London SW1Y 6QT

Today's Rates 10¾%-11¼%

Finance for Industry plc has changed its name and FFI Term Deposits are now called Investors in Industry Term Deposits.

Deposits of £1,000-£50,000 accepted for fixed terms of 3-10 years. Interest paid gross, half-yearly.

Rates for deposits received not later than 21.10.83 are fixed for the terms shown:

Terms (years)	3	4	5	6	7	8	9	10
Interest %	10¾	11	11	11¼	11¼	11¼	11¼	11¼

Deposits to and further information from the Treasurer, Investors in Industry Group plc, 91 Waterloo Road, London SE1 8XP (01-928 7822 Ext. 367.) Cheques payable to "Bank of England, a/c Investors in Industry Group plc."

Investors in Industry 3i

MONEY MARKETS

Fixed and floating attractions

Interest rates may have reached a plateau after a slow decline for most of this year, but countries looking for increased economic growth to cure high levels of unemployment would like to see rates much lower. The U.S. Budget deficit remains a major constraint despite encouraging predictions about 1985 by Mr Donald Regan, the Treasury Secretary.

The lowest level the U.S. Treasury can attract money to fund its deficit will be the key level as far as world interest rates are concerned.

Another factor limiting interest rate movements is excess German money supply growth, which is known to be worrying the Bundesbank, and is likely to prevent any easing of the central bank's key lending rates this side of the new year.

But even allowing for the fact that opportunities for lower interest rates may be limited for some time, levels have fallen considerably during the last two years, giving favourable opportunities for borrowers and lenders alike. During this period some operators, such as local authorities, have been borrowers of fixed term money, which may now look expensive from their own point of view.

The locals are obviously at the more favoured end of the borrowing market, obtaining rates that would not be available to corporate borrowers. Thus while some previous rates for fixed money may look expensive to a local authority, the corporate borrower is likely to be keen to obtain fixed money over a reasonably long period at even higher rates. This is where money brokers and the banks can play their part, through arranging interest rate swaps. It must be made clear that the local authority does not lend money on, but simply changes the structure of some of its debt. The bank effectively takes on some of the old fixed borrowing, and lends back to the local authority at a rate near to LIBOR. The bank then lends to its customer at a fixed rate, knowing that its exposure to a sudden rise in interbank rates is effectively covered. It may not be a large part of the money market's trade, but can have great attractions to the right people.

LONDON MONEY RATES

Oct. 7 1983	Sterling Certificate of deposit	Interbank	Local Authority deposits	Local Auth. negotiable bonds	Finance House Deposits	Company Deposits	Discount Market Deposits	Treasury Bills ♦	Eligible Bank Bills ♦	Fine Trade Bills ♦
Overnight	—	8¾-11	9-9⅛	—	—	9-9¼	9-9⅛	—	—	—
2 days notice	—	—	9-9⅛	—	—	—	—	—	—	—
7 days or	—	—	—	—	—	9¼-9⅜	—	—	—	—
7 days notice	—	9⅛-9¼	9⅛	—	—	—	9	—	—	—
One month	9⅛-9¼	9¼-9⅛	9¼	9⅞-9½	9¼	9½	9	9⅛	9⅛	9⅝
Two months	9⅛-9¼	9⅛-9⅛	9⅛	9¾-9⅝	9⅛	9⅝	9	8⅞	8⅞	9⅝
Three months	9⅛-9⅛	9⅝-9⅛	9⅝	9¾-9⅝	9⅜	9⅝	9	8⅞	8⅞	9⅝
Six months	9⅛-9⅛	9⅛-9½	9⅝	9⅛-9¾	9⅝	—	—	—	9⅛	9⅝
Nine months	9⅛-9⅝	9⅝-9¾	9⅝	9⅞-9½	9⅝	—	—	—	—	—
One year	9⅛-9⅛	9¾-9⅞	9⅝-9¾	9⅞-9½	9¾	—	—	—	—	—
Two years	—	—	10⅛	—	—	—	—	—	—	—

ECGD Fixed Rate Export Scheme IV. Average Rate for interest period September 7 to October 4 1983 (inclusive) 9.719 per cent.

Local authorities and finance houses seven days' notice, others seven days fixed. Long-term local authority mortgage rates nominally three years 10½-10¾ per cent; four years 10⅞ per cent; five years 10⅞-11 per cent. ♦ Bank bill rates in table are buying rates for prime paper. Buying rates for four months' bank bills 8⁲⁵⁄₃₂-8²⁵⁄₁₆ per cent; four months trade bills 9²³⁄₃₂ per cent.

Approximate selling rate for one-month Treasury bills 8³¹⁄₃₂-9 per cent; two months 8⅞-8²⁹⁄₃₂ per cent and three months 8¹³⁄₁₆-8⅞ per cent. Approximate selling rate for one-month bank bills 9 per cent; two months 8²⁹⁄₃₂ per cent; and three months 8²⁹⁄₃₂ per cent; trade bills 9²³⁄₃₂ per cent; two months 9²³⁄₃₂ per cent and three months 9²³⁄₃₂ per cent.

Finance Houses Base Rate (published by the Finance Houses Association): 10 per cent from October 1, 1983. London and Scottish Clearing Bank Rates for lending: 9 per cent. London Deposit Rates for sums at seven days' notice: 5½ per cent.

Treasury Bills: Average tender rates of discount 8.8369 per cent. Certificates of Tax Deposit (Series 6). Deposits of £100,000 and over held under one month 9½ per cent; one-three months 9¾ per cent; three-six months 9¾ per cent; six-12 months 10 per cent. Under £100,000 9¼ per cent from October 5. Deposits held under Series 4-5 10 per cent. The rate for all deposits withdrawn for cash 8 per cent.

INTEREST RATES

EURO-CURRENCY INTEREST RATES (Market closing rates)

Oct. 7	Short term	7 days notice	Month	Three Months	Six Months	One Year
Sterling	9-9¼	9⅛-9¼	9¼-9⅜	9⁷⁄₁₆-9⁹⁄₁₆	9⁹⁄₁₆-9¹¹⁄₁₆	9⁹⁄₁₆-9¹³⁄₁₆
U.S. Dollar	9¼-9½	9⅜-9⅝	9¼-9½	9⅜-9⅝	9½-9¾	9¹³⁄₁₆-10
Can. Dollar	8¾-9⅛	8¾-9¼	8⅞-9⅛	9-9¼	9⅜-9⅝	9⅝-9⅞
D. Guilder	5¾-5⅞	5¾-6	5⅞-6	6-6⅛	6⅛-6¼	6⅜-6½
S. Franc	2¼-2½	2⅛-2⅝	3½-3⅝	3⅞-4	4⅛-4¼	4⁵⁄₁₆-4⁷⁄₁₆
Deutschm'rk	5½-5⅝	5½-5⅝	5⅝-5¹¹⁄₁₆	5¾-5⅞	5⅞-6	5¹⁵⁄₁₆-6¹⁄₁₆
Fr'nch Franc	12¼-12¾	12¾-16	15½-15¾	15⅝-16⅛	16¼-16½	16⅛-16
Italian Lira	16-17	17½-19	18¼-19	18⅝-19⅛	18⅝-19⅛	18¾-19
Belg. Franc Conv.	7½-8	8-8½	9¼-9¾	9¾-10¼	10-10¼	10¼-10¾
Fin.	—	7-7½	9⅞-9½	9⅜-9⅝	9¾-10	10-10¼
Yen	6½-6⅝	6⅜-6⁹⁄₁₆	6⅜-6⁹⁄₁₆	6⅜-6⁹⁄₁₆	6⁵⁄₁₆-6⁷⁄₁₆	6⁵⁄₁₆-6⁷⁄₁₆
D. Krone	13¼-15¼	14¾-16¼	12½-13	11⅝-12⅛	11¾-12¼	11⅜-11⅞
Asia $ (Sing.)	9¹⁄₁₆-9⅜	9⁷⁄₁₆-9⅝	9⅜-9½	9⁷⁄₁₆-9⅝	9½-9⅝	9¹¹⁄₁₆-9⁷⁄₁₆

FT LONDON INTERBANK FIXING

11.00 a.m. OCTOBER 7)

3 month U.S. dollars		6 month U.S. dollars	
bid 9 7/16	offer 9 9/16	bid 9 1/2	offer 9 5/8

The fixing rates are the arithmetic means, rounded to the nearest one-sixteenth, of the bid and offered rates for $10m quoted by the market to five reference banks at 11 am each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Banque Nationale de Paris and Morgan Guaranty Trust.

MONEY RATES

NEW YORK

Prime rate	11
Fed funds (lunch-time)	9¼-9⅜
Treasury bills (13-week)	8.59
Treasury bills (26-week)	8.77

GERMANY

Lombard	5.5
Overnight rate	5.525
One month	5.775
Three months	6.125
Six months	6.175

FRANCE

Intervention rate	12.25
Overnight rate	12.75
One month	12.6875
Three months	12.6875
Six months	12.75

JAPAN

Discount rate	5.5
Call (unconditional)	6.71875
Bill discount (3-month)	6.84375

SWITZERLAND

Discount rate	4
Overnight rate	2-3
One month	3¼-3½
Three months	3⅞-4

NETHERLANDS

Discount rate	5
Overnight rate	5⅞-6
One month	5⅞-6
Three months	6-6⅛
Six months	6⅛-6¼

$ CERTIFICATES OF DEPOSIT

One month	9.15-9.25
Three months	9.20-9.30
Six months	9.30-9.40
One year	9.55-9.75

LONG TERM EURO $

Two years	10¾-11
Three years	11-11¼
Four years	11½-11⅞
Five years	11¾-12

SDR LINKED DEPOSITS

One month	8⁹⁄₁₆-8¹³⁄₁₆
Three months	8¹³⁄₁₆-9¹⁄₁₆
Six months	9-9¼
One year	9¼-9½

ECU LINKED DEPOSITS

One month	8⅞-9¼
Three months	9⅛-9½
Six months	9¾-10
One year	9⅞-10¼

FINANCIAL TIMES SURVEY

Computer Software

No easy road to success

By ALAN CANE

WANG, the office equipment company, made it acceptable to advertise computers on television. But when Peachtree, the microcomputer software subsidiary of Management Science America (MSA), buys air time to advertise its wares, the microcomputer revolution is clearly entering a new dimension.

For the first time in 30 years—since the beginning of the modern computer era, in fact—the instructions which when translated into electronic impulses put computers through their paces are being recognised as of equal or greater importance to the hardware on which they operate.

There are two principal reasons for this phenomenon:

- First, the advent of low cost, powerful computing hardware—the microprocessor, the uncommitted logic array, the miniaturised Winchester hard disk drive—has emphasised the relative cost of programming.

One U.S. semiconductor specialist, faced with a new and massively powerful computer on a chip, remarked that it could be the first chip to cost \$5 to buy and \$1m to program.

Mr Joseph Roth, in a recent study of the U.S. computing services industry, noted: "Packages (application software which can be used without tailoring to the users special needs) for microcomputers need to be offered at a price which in some way reflects the lower cost of the equipment. But, even so, software costs are now a significant proportion of the system value—about 45 per cent with 20 per cent representing the cost of hardware and the remaining 35 per cent absorbed in sales distribution and marketing costs."

- Second, the advance of microcomputers in business, industry and the home has generated a powerful demand for new kinds of software coupled with a fresh awareness of the problems of making computers perform to order among the users themselves.

The problems of writing good computer programs are very real; and earnest travellers on their journey to the Nirvana of perfect computing will find slippery software patches to delay them or send them crashing back to the beginning.

Given the perfectly understandable excitement about microcomputer software, it is easy to forget that the software industry has a long history. A list of the top 50 independent software houses, drawn up only a few years ago, would have included some of the best-known names in the business.

Applied Data Research, for example, which created the software packages Roscoe and Vollie, for on-line program development and The Librarian for resource control.

There would have been Cincom Systems, creator of a database management package called Total which is the largest selling software package in the history of the software industry.

And there would have been Pansophic Systems, whose product Easytrieve facilitates computer-based data retrieval and report writing.

All these companies created and marketed susbtantial pieces of software tailored to be used in conventional data processing centres—and mostly on IBM hardware.

They still do. A list of the top 50 independent software companies in 1982 prepared by the U.S. magazine, *Software News* shows ADR in third place with revenues of \$68m, Cincom in fifth place with \$58m and Pansophic in eighth place with \$41m.

Top of the list and well clear of the rest is Management Science America (MSA) with \$101m with Cullinet Software in second place (\$69.7m).

Newcomers

But alongside these companies whose names and products are well-known in every data centre in the Western world sit a clutch of microcomputer software companies many of whom were not even in existence five years ago.

There is, for example, MicroPro International with revenues of \$39m. Its flagship is the word processing package Wordstar without question the market leader in its field.

Then there is Visicorp which markets a family of products based around its best selling spreadsheet Visicalc, largely credited with having promoted the success of the Apple microcomputer, as accountants in droves bought the machines to enjoy the luxury of automated spreadsheets.

And neck and neck at number 22 and 23 are Digital Research and Microsoft. Digital Research created a piece of systems software (software which controls the internal operations of the computer) called CP/M which is generally credited with having brought order out of chaos to commercial computing on microcomputers.

Microsoft created in the early days of microcomputers a version of the computer language Basic which would run on microcomputers. Its skills were recognised by IBM through its use of Microsoft's systems software MS/DOS as the standard for the IBM Personal Computer.

In the UK, Micro Focus achieved Queen's Awards for both technology, and exports through its development of a version of Cobol—the commonest business computer language—which could be run on microcomputers.

What all these microcomputer software companies have in common is success achieved through the development and marketing of a product which either by luck or judgment hit the market at the right time, and which solved a defined computing problem.

The rewards for serendipity can be large. Top of the U.S. microcomputer charts at the moment is a package called 1-2-3 from Lotus. The company was formed only in April 1982 by Mitchell Kapor, creator of some of Visicorp's best selling packages.

Critical factors

The emergence of the right machine at the right time is also of critical importance. In the UK, Alex d'Agapeyeff, former chief executive of Computer Analysts and Programmers (CAP) a prestgious software house, was one of the first to perceive the need for low-cost software which could be moved from machine to machine.

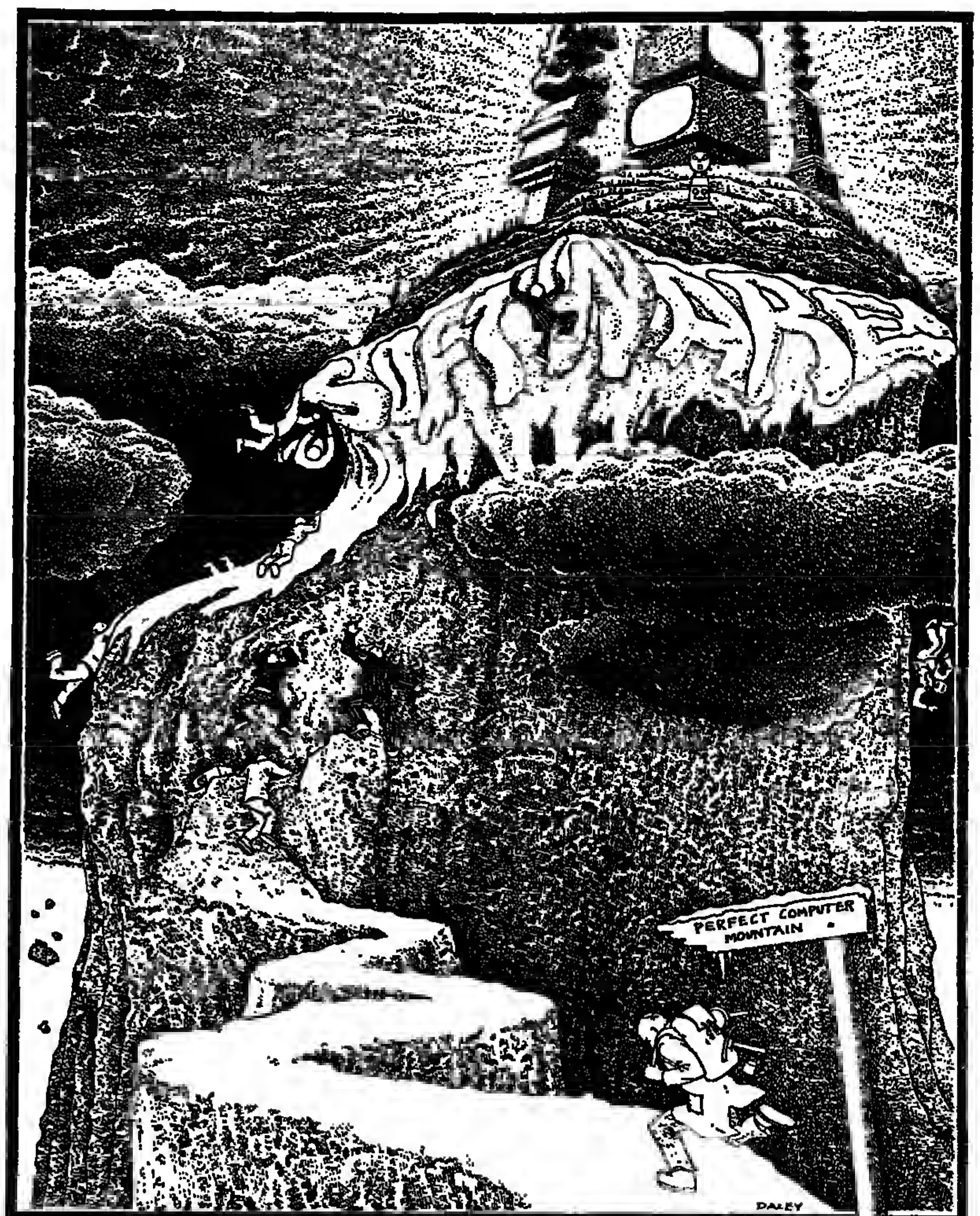
CAP invested millions in what it called Micro Cobol; by a mixture of bad luck and ill judgment, the software never found the expected market acceptance. Some part of that was due to the lack of suitable business micros. As d'Agapeyeff said: "I would never have believed that manufacturers could have been so slow to package these microcomputer chips."

Now CAP has recovered much of its former profitability.

Financial trends in computer software all point upwards. The U.S. consultancy Input suggests that user expenditure on personal computer software will increase from \$250m in 1981 to \$3.7bn in 1987.

The hottest areas are software integration of the kind pioneered by Lotus (Mitchell Kapor plans to add word processing next year) and the software links between mainframes and microcomputers.

Conventional data centres are on the way out, simple terminals will give way to personal computers, executives will create reports, cary out calculations and draw graphs at their workstations. And it will all be held together by that most expensive electronic glue, software.



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UK packages market alone worth £289m

PACKAGED SOFTWARE: Philip Manchester examines developments in the important area of generalised pieces of software which fulfil particular application needs. The packaged software sector now amounts to 53 per cent of Britain's £552m software market.

UK COMPUTER-USERS spent £289m on packaged software in 1982, according to a recent survey of data processing expenditures.

The survey, conducted by the International Data Corporation and published in the trade paper, "Computer Weekly," also notes that this represents 53 per cent of the total spent on software (£552m).

Compared with a similar survey conducted by IDC in 1979, which showed that the UK market for packaged software was around the £40m mark, the 1982 figure serves to demonstrates the staggering growth in this sector.

Packaged software is the computer industry's solution to the problem of writing enough computer programs for the constantly growing computer user base.

The best-known examples of packaged software are the so-called "spreadsheet" programs for performing elementary financial planning—pioneered by the authors of Visicalc.

Other examples are programs for word processing such as Wordstar from Micropro.

Before packaged software established itself as a respectable solntion to the problems of getting computers to work, most software was built to order either by the manufacturer or by a third party software house. According to the survey, this sector of the software business only represented 21 per cent of UK computer users' software expenditure in 1982 (£118m).

It is a more expensive method of getting computer systems working, but it supposedly offers users a better end result.

In the days of expensive mainframe computers of the type used by most large corporations, this higher cost could be more easily justified. Now, in the age of the microcomputer costing as little as e few thousand pounds, the package has coma into its own.

The software industry faces a problem, however. Users are now demanding as much from their microcomputer systems as was once expected from the larger mainframe systems. They want databases, they want electronic mail and most of all they want software that can be understood easily and put to work quickly.

There are a number of reasons why the simple microcomputer on the desk cannot provide this level of service.

At the technological level the machines are just not big enough—yet.

"They will continue to get better," noted Mr Nigel Pendse of the British software and services firm, Comshare.

"But we are still some way from having enough storage—I would say that one megabyte of RAM and 40 megabytes of hard disk store would be a good start."

A megabyte is computer jargon for a million characters. The RAM that Mr Pendse talks about is tha storage provided in semiconductor chip form as opposed to the hard disk—an advance on tha magnetic "floppy" disks that have become the norm for microcomputers.

Mr Michael Hunt of the giant U.S. software firm, Management Science of America (MSA), agrees that microcomputer storage is a major issue in giving users what they want.

"RAM is not so much of a problem now—there are systems around with half a megabyte—but I would say that about 50 megabytes is the minimum for hard disk," Mr Hunt said.

Both Comshare and MSA are firms that grew up with mainframe computing and have only relatively recently moved into supplying software for microcomputers.

Along with a number of other mainframe software vendors they have recognised that tha future of the software market depends upon getting the combination of micro and mainframe right.

The micro offers individual users the capabilities to build 'and control their own systems—what has come to be known as personal computing. The mainframe provides a corporate framework into which these systems can fit.

It is no surprise, therefore, that these companies should currently be concentrating on linking the two types of system together.

The micro-mainframe link, as it has come to be known, has been this year'a fashion for software companies. MSA, in collaboration with its microcomputer software subsidiary, Peachtree, has to some extent led the way.

"We acquired Peachtree because we saw that this was going to be the way of tha future," explained Mr Hunt.

"We see it progressing in three phases and it is not without its problems. First of all we tried taking mainframe software and loading it down to the micro, but we ran into e lot of difficulties.

"Currently we have systems that will extract data from the mainframa database and send it down e line to a micro system.

"The next stage is to tie in applications to the micro—such as data entry and validation," added Mr Hunt.

"The final phase — and I think this is a few years away, as yet—is full distributed processing."

Distributed processing has been the long-term goal of both the computer industry and committed computer users for almost a decade.

It involves, quite simply, putting computer power where it is needed rather than isolating it in the hands of a technocratic elite.

Powerful microcomputers have done much to help realise that goal and if Mr Hunt is right, it will be in the near future.

Mr Pendse suggests that there will be other bonuses—"A lot of people have bought cheap micros with their own software and have outgrown them. There must be an upgrade path so there is no breakpoint between the micro and the mainframe system," he says.

"If we have integration between mainframe and micro software, then that breakpoint will disappear."

But again there are problems which stem from fundamental differences in micros and mainframes. Compromises have to be made.

"Mainframes have to cope with bigger problems and therefore use different approaches," observed Mr Pendse.

"Our financial planning product, Wizard, uses techniques that you just could not put on a micro, whereas our range of micro financial planning tools could not cope with the sort of problems you can throw at Wizard. We think that we shall have to live with an increase in cumbersomeness on micros to achieve the integration of the two types of system," added Mr Pendse.

Mr Mike Willis, manager of software house CAP's microcomputer group, agrees that these sorts of compromise are necessary. But he also feels that a solution is needed to effectively distribute databases.

"There is no solntion to this, at present. In the long-term, people are looking for mainframe facilities on micros and the only way of achieving this is to look at the whole system.

"We must be careful not to make the mistakes of the past where technical peopla got carried away with implementing the system and lost sight of the users' objectives," said Mr Willis.

He went on to suggest that the international efforts at setting standards for communications between computers would help in solving the problems of distributing data.

But once the data is distributed, what of the problems of access?

One of the great contributions that microcomputers have made in their short history is to make computer systems easier to use. The popularity of the Visicalc style packages is testimony to this. Mainframe software is characterised by its high technological content and consequent high power.

The real compromise that the packaged software suppliers will have to cope with is the trade off between power and ease of use.

Whoever gets the equation right on tha software supply front, stands to make a killing. According to Mr Hunt, MSA has pulled in $3.5m worth of extra business from its micro/mainframe packages.

"This has given us a significant competitive edge," he added.

'The software boom is only just beginning'

THE BRITISH software industry is now thriving on a Government funding scheme which lay fallow in the 1970s and almost expired last year.

The revamped Software Products Scheme (SPS) is now stimulating at least £100m of investment in the production of innovative software each year, according to Mr David Rates of the Computing Services Association. He also sits on the SPS advisory committee.

The scheme itself provides dramatic evidence of its own success, by virtue of the fact that at least two-thirds of expensive software developments must be paid for by the individual company, or its backers, says Mr Rates. The Department of Trade and Industry grants one up to a third of the cost through the National Computing Centre, which evaluates applications.

Applications for SPS-backing increased from April last year, when the old royalty-on-sales clause which put off many companies was dropped in favour of a straight cash grant with no strings. No limit was put on the size of these grants and a £10m kitty was established to last for two years. When this was spent in under half the time, a further £15m topped up the SPS kitty in the last budget.

Mr Rates has figures which show just how rapidly SPS has caught on and which also point to a British software boom which is only just beginning.

The scheme's advisory committee have just finished a review of the past 18 months and are now in a position to suggest "fine tuning" to make the best use of scarce resources.

The CSA, which represents many software houses, would like to see the SPS kitty being topped up again to cope with obvious demand.

The number of software suppliers applying to SPS accelerated this year, jumping from just three each month when the scheme began in April, 1982, to 12 each month, a year later.

There are now 17 applicants coming along each month and Mr Rates said that there will be more. A CSA roadshow pushing SPS has had e thousand delegates attend in recent months.

The latest seminar, when the CSA brought potential backers to lay out their stalls in front of companies, was packed to capacity, with 40 peopla unable to be admitted as a result.

Paul Walton highlights the activities of the UK's revamped Software Products Scheme

There have been 105 SPS grants, with one in every two applicants to the SPS being satisfied under the new scheme, with tha amount of money involved varying considerably.

While an average grant might be £130,000, "it doesn't mean that we're looking just for the big, flashy projects — quite the reverse. We would like to see more of the small firms which are only just finding out about the scheme applying," says Mr Rates.

The changes now being considered by the advisory committee, which brings together all the interested parties, would both update the scheme, as well as trying to secure the principle of "seeding" the development of commercial software with public money by means of a regular yearly grant, adds Mr Rates.

In what could be the turning for large scale funding of software products in Britain, the SPS advisory committee will also make a plea for regular public funds alongside suggestions of how it might be spent to fuel further investment which might otherwise not take place.

The committee brings together officials from the DTI, the NCC and the CSA have recently put their case to Mr Kenneth Baker, the Information Technology Minister.

The scheme has always spent most of its funds (as much as 80 per cent) on a dozen or so preferred areas of development, where innovative and commercial products might result in big sales.

There will also be a new software export scheme for consideration, as well as a plea to back less other kinds of software in areas like education, even if they are not commercially viable at present.

The SPS advisory committee wants to draw a line between the more immediate software development role it sees itself fulfilling, bringing products out in nine months to a year, and the longer-term speculative backing which the Alvey project is giving, often in very similar areas or to the same companies.

SPS can respond faster to the market and is allowed to provide important sales and marketing assistance, which falls outside the Alvey project that is aimed et building the next generation of computer systems.

Many of the preferred areas for funding should either be dropped, or altered to take account on present day markets; suggests Mr Rates.

"There is now so much eight-bit microcomputer software around that it would be silly to back any more, since its days would be numbered," he adds.

Instead, the SPS would focus on newer 16- or 32-bit software, or the transportable software made possible with the Unix operating system.

Once again, SPS has prematurely almost run out of money. This is a sign that this "seed" money is fueling a software boom but Mr Rates adds that there is no way of proving how healthy or important this invisible industry has become, doe to lack of statistics.

The need for more detailed statistics is one of the requests which the advisory committee is putting before the Minister.

ON OTHER PAGES

New moves to exploit universities' software

Funding software developments: Paul Walton looks at ways in which Britain's academies are taking their software ideas to market

A POTENTIAL goldmine, which could be found by digging into the masses of software written by Britain's academics, is now becoming the subject of intense commercial speculation.

The Prime Minister, Mrs Margaret Thatcher, wants to encourage private investors to prospect for profitable nuggets of software in the publicly funded research establishments, and she has ended the British Technology Group's right to monopolise the area by way of inducement.

Mr Geoff Burkitt is the head of the universities' Directors of Industrial Liaison group, whose members are employed to help academics take their ideas to market or to find commercial backers. He said that ending the BTG's first right to market research work, such as software, would make little practical difference.

"What we really need to know is which software is worth selling, and then how best we can go about selling it," he adds.

The exploitation of university software is not e new idea, since many computer suppliers maintain close links with academics who use their machines to pick up new developments. This has been a piecemeal approach which has missed much more of the practical applications' software which can be sold for considerable profit to existing computer users.

Individuals and companies are now beginning to realise that such an independent supply of software could be increasingly lucrative. They are taking distinctive approaches to the use of the software that has already been written, as well as developing software which embodies theoretical principles not yet epplied.

Imperial Software Technology is just such a commercial venture, which was set op in close proximity to Imperial College in order to develop the software which will make the design of computer systems themselves more simple and reliable.

Prof. Lehmann, the head of the computer science department at Imperial College, had the idea of founding IST as tha first company specialising in the emerging discipline of software engineering. Put simply, the idea was to write software which would make the design of computer systems "more of a science, and less of an art," said Mr John Parker, who is IST'a principal consultant.

The company was set up in October 1982 with £750,000 of backing from Imperial College, Plessey, Natwest and the P.A. Management Consultancy equally, to develop the first software tools which would put Lehmann's ideas into practice. It would undertake joint research with the college into the new science, to establish the ground-rules, but it was ultimately to be e commercial venture.

The company will give valuable practical experience to students who are just about to begin Lehmann's first degree course in software engineering, but it is staffed by two dozen of the software industries' most experienced names.

Mr Jim Feny came from heading software giant Hoskyns to be the first managing director of IST. He said that collaboration with Imperial College and other academics would enable the company to develop revolutionary new products, which might otherwise have taken years to surface in the cash-starved academic world.

"At the simplest level, what we are doing is to take theoretical ideas and to prepare tools out of software, to make it easier to build a computer system," Mr Feny said.

The company has spent the first year putting the ideas into a shape which can be transformed into software. Mr Feny said that it has made a profit by doing high-level consultancy work, teaching others how to put the theory of software engineering into practice.

£1m project

Mr Parker said that IST was about to take the next step to wider commercial exploitation of the principle—it will build standard products which make the production of an office automation, or any other computer system easier and more reliable. It will emerge after a £1m project to build the first computer workstation which will build computers, at the end of 1984.

The provision of more immediate simplicity is the object of a piece of software known as the Newcastle Connection, written at Newcastle University by Dr Leslie Marshall and some of his colleagues. This product was written to network more easily different, and often incompatible, computer systems.

Dr Marshall chose to pass his software on to the local, non-profit-making Microelectronics Applications Institute (Mari), to market on the group's behalf.

Mari markets the computer products and services of numerous organisations on Tyneside, putting the balance of profits back into new projects after paying royalties and some of the costs of the University and Polytechnic of Newcastle, and CAP Programmers which are its founders.

The Newcastle Connection was actually made "quite by accident," as a result of research work by Dr Marshall and his colleagues on the Unix operating system. It was originally developed to allow identical information to be displayed and transmitted between incompatible computer terminals, or stand-alone microcomputers.

Dr Marshall said that the team which developed it could not wait to hand the Newcastle Connection over to Mari, who would do "a much better job at marketing and supporting it." They are unlikely to become millionaires on the royalties from its sale, despite immediate success and a huge potential market.

Success

Dr David Butland and his wife, Judy, are more of what Mrs Thatcher had in mind when she spoke about the "entrepeneurial academic" recently, being capable of moving with apparent ease from the University of Bradford and on to commercial success.

They founded Bradford University Software Services (BUSS) in 1981, with £25,000 backing from the BTG, putting up a further £15,000 themselves in order to sell sophisticated graphics software, called Simpleplot.

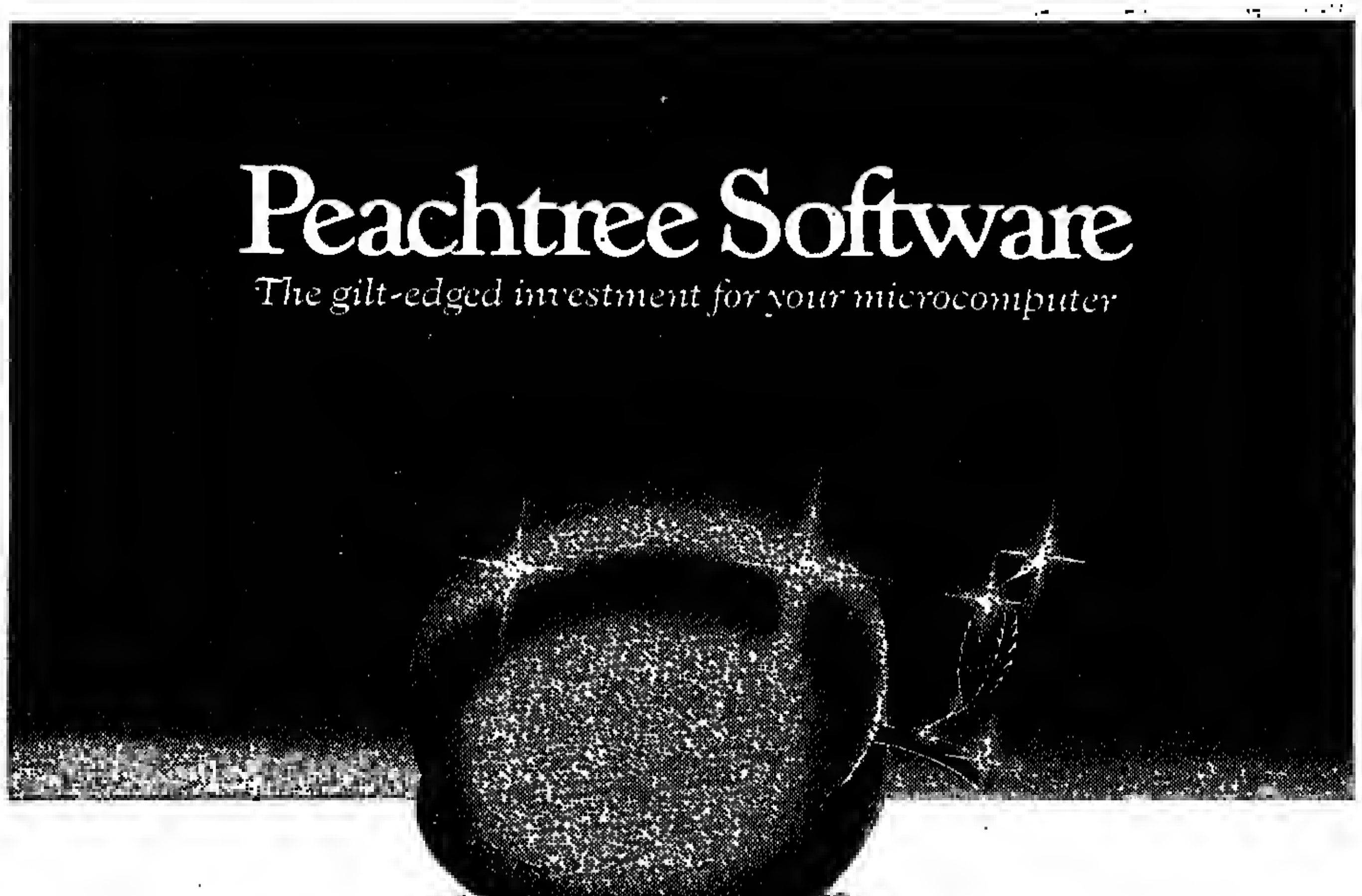
Judy Butland began work developing the package to help research students like herself to turn out graphical representations of their experimental figures, in the university's electrical and electronic engineering department, back in 1978.

Dr David Butland left his job at the university to run BUSS when tha financial backing allowed them to take on their own Digital Equipment VAX computer, to develop and support the software.

Ha is flying to Tokyo this week to sign a software deal, worth up to £100,000 a year, to supply Simpleplot to the largest Japanese dealer for the computers, Rikei. He praises the support which the BTG gave his company, but warns against every academic research project being financed for sale.

"I believe that universities haven't and shouldn't have the resources to develop software for commercial sale, on the whole, because the important thing about a successful sale of software is the support which you give afterwards.

"Academics in university can't budget for such large-scale operations, and they are more used to dealing with surprising situations anyway. Day-to-day business bores them," he said.



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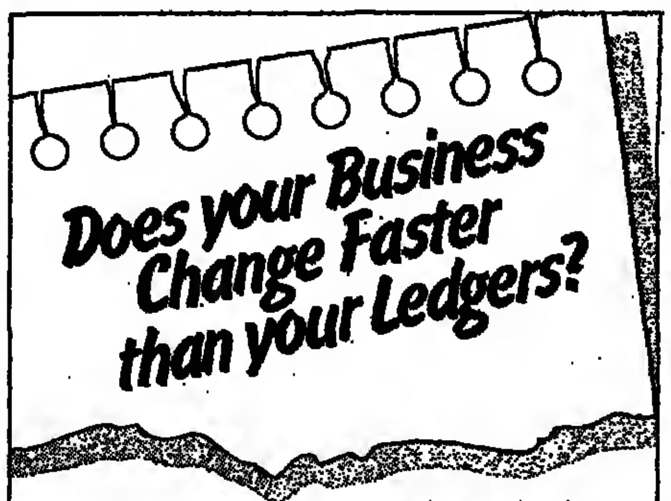

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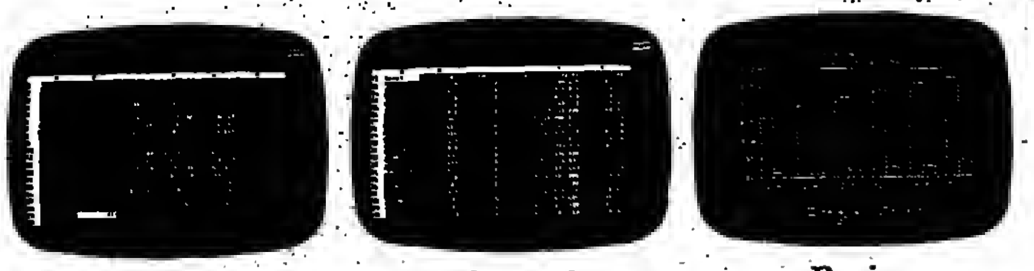

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Alan Cane examines the advance in software engineering

Moving from an art into a science

SOME 35 miles north-west of Boston, Massachusetts, a grand stone mansion which was once a home for the Marists, a religious organisation founded in France as a teaching order for country boys, has taken on a new significance.

The Marists have long since gone, but the building is still used for teaching; the seminar rooms these days, however, bristle with some of the most advanced computing equipment available. The students who use it come from all over the country.

The building now houses the Wang Institute of Graduate Studies, founded in 1979 by Dr An Wang, of the office automation company which bears his name, to meet a new and growing need in the computer industry—the need for software engineers.

The twin aims of the Institute are to provide the professional graduate education which software engineers require to meet the demands of industrial software development and management and, more significantly, "to help alleviate the acute nationwide shortage of skilled software specialists."

The importance the industry attaches to the institute is underlined by the fact that although founded and named by Dr Wang, funds and machinery are contributed by other computer companies, many of which sponsor students at the institute: Digital Equipment, Hewlett Packard, Prime, Raytheon, Bolt, Beranek and Newman.

Joint venture

Institutes such as the Wang are rare—in the UK, the closest comparison is with Imperial Software, a joint venture company set up with funding from London's Imperial College, National Westminster Bank, Plessey and PA Management Consultants—yet the importance of developing new ways of creating reliable and sophisticated software is recognised in the money being poured by governments and individual companies into software engineering research.

In the UK, for example, a committee under Mr John Alvey of British Telecom investigating Britain's needs in advanced computing identified software engineering as one of the key "enabling technologies."

Now a collaborative programme of research and development is under way under the guidance of Dr David Talbot of ICL, designed to bring the universities, industry and the government together to accelerate progress.

In the EEC, the Esprit programme has somewhat similar aims; the French Concerto programme and the Japanese "Fifth Generation" initiative are all directed towards the same goals.

Major multinational computer companies like IBM and Geisco, the computing services arm of General Electric of the U.S. are pouring millions of dollars of their own money into better methods of software production.

So it is clear that the need is there and that the need has been recognised. Now for an important *caveat*. There is a pernicious and tenacious myth, partly sustained by the software specialists themselves, that producing computer programs is a kind of latter day magic — "still more art than science" is the usual phrase.

It is not. It is highly skilled work of a sort which requires meticulous attention to detail, imagination and a thorough knowledge of the application for which the computer program is intended. But it is not magic and there is a growing understanding in the industry that uncritical belief in "expert system," "knowledge-based systems" and so on will not necessarily lead to the hoped-for software bonanza.

Pull away the smokescreen of magic and software engineering is, according to Wally Burgess, software engineering specialist with Geisco in the UK: "A unified set of rules, techniques and working patterns laid down and followed so that software systems can be built in a professional manner."

It is a set of techniques that improves management planning and control, enhances technical activities and historically results in more reliable software with a lower overall cost.

Geisco operates Mark III, the largest commercially available information processing network in the world; its customers are spread across the globe and its software needs are international.

Mr Burgess points out: "An international company needs a new generation of standards. We could not be where we are today in software without the use of software engineering."

He is particularly critical of much of the computer's business's cottage industry approach to software, arguing, for example, that the word "bug" for an error in a programmer's work should be banned, carrying as it does, connotations of inevitability and no suggestion of blame.

So the advent of software engineering means a move from art to science, from amateur to professional.

The tools are there; Professor Manny Lehman of Imperial College has written of a "rich set of process primitives" which can be structured to provide a basis for practical implementation.

Mr James Feeney, managing director of Imperial Software argued: "These efforts will revolutionise the software production process, changing it from a cottage industry to a capital-intensive one. But it will be some time before these changes work through to the larger mainframe data processing departments, where the weight of previous investment will ensure the continuance of existing operating systems and methods for another decade or two."

Coming to terms

He went on: "Large dp users will need to come to terms with these developments for all new projects otherwise they will find themselves on a "high cost/poor quality" limb while the rest of industry will have turned software production into a precise engineering discipline."

Earlier this year, Systems Designers, a well-regarded UK software house based in Fleet, Hampshire, launched one of the first commercially available software engineering products. Called "Perspective" it is designed to aid a software development team in the designing, programming and testing of new software systems.

Echoing Professor Lehman's view that the software tools are there and need only to be organised, Mr Elwyn Wareham, international product sales manager for Systems Designers said: "The software industry has been highly proficient in providing methods and tools to overcome management and design problems."

He went on: "With Perspective, we introduce the same disciplines and tools in the actual process of software engineering.

"The result will be better quality software, produced more quickly at less cost. We will make better use of that scarce resource, the experienced software engineer. And by doing so, we improve the productivity and profitabiltiy of all British industry where software control and communications represent a fundamental part of its eventual product."

What Perspective is, in fact, is a central database that holds the source text of the program, the structural relationships between database items together with manager and designer features linking all the elements of the project into a common development environment.

The savings to be gained from the use of development aids like Perspective can be considerable. A study carried out by TRW for the U.S. Government showed that a fault in a system removed during programming (the actual writing of the computer instructions) was 10 times more expensive to remove than if it had been spotted at the design stage.

A design fault not removed until the system was in service cost 1,000 times more to remove than at the design stage.

These software engineering environments are very much third generation products.

First were the large installation mainframe programming aids like Roscoe and the Librarian from ADR. Then applications programs generators such as Sperry's Mapper and Burroughs' Linc which are being used today with significant success.

Software engineering environments are a major step forward but they are not achieved easily. In commending a system called SDS from Software Sciences as the best solution available at the time (November 1982) for a software development database, a Department of Industry report noted that it was "originally conceived over 10 years ago and, as such, was a brilliant innovation."

"The migration from implementation to a fully supported and reliable production package has been difficult and is still not complete."

Just as a metalworker starts by creating his own specialised tools, so the new software enginers have had to create their own aids, like Perspective and SDS. The next decade should see progress towards the "software factory" accelerate sharply.

WEST EUROPEAN SOFTWARE PRODUCTS MARKET

Market forecasts ($m)

Subsector	1978	1979	1980	1981	1982	1983	1984	Annual average growth 1978-84 (%)
Systems Software	382	527	710	920	1,201	1,637	2,145	30
Applications Software	187	275	408	615	900	1,313	1,823	46
Total	569	803	1,118	1,535	2,102	2,950	3,967	38

Source: INPUT, London.

Hunt for vital link for tomorrow's factories

FACTORY SYSTEMS: 'Automate or liquidate' has become a slogan, but manufacturers are convinced of its truth, as Alan Cane reports here.

THE "factory of the future" will be built around software. The factory of today already uses a rich and diverse mix of software products, but in an essentially comparmentalised fashion.

The trick for the next generation of factory systems is to link all those diverse systems together to create a factory run by computers—computer integrated manufacturing (CIM).

Sales of CIM equipment and software will reach $98bn in the U.S. by 1992, according to consultants Arthur D. Little. Similar growth can be expected in Europe.

In the UK, major manufacturing companies have a long track record in the installation of computers for production control—Smiths Industries, for example, installed its first mainframe as early as 1963 and developed its own production programs.

But there was disquiet about the fact that so few small and medium sized companies were taking advantage of computing techniques.

In 1967-68, John (now Sir John) Hoskyns, founder of the Hoskyns Group of companies persuaded the National Research Development Corporation (NRDC, now part of the British Technology Group) to sponser a study into the reasons for this failure to modernise.

The answers surprised nobody. Computerisation cost too much, took too long and was far too risky. The solution, it seemed to John Hoskyns was standardisation. So Hoskyns selected a "best buy" among the computers available at the time—it turned out to be an ICL 1901A with 48 thousand bytes of storage — and set to work writing stock recording programs, requirements planning programs an dso on, with the NRCD cting as high risk, high risk, high rate bankers.

"Those systems were not built in ivory towers" John Hartley, director of Hoskyns' Manchester computer bureau recalls. "They were built on the factory floor. You got swarf in your turn-ups."

Built for ICL machinery, the Hoskyns systems were rewritten for IBM and after Hoskyns was taken over by Martin Marietta, the U.S. aerospace major, offered world-wide as the MAS II range comprising master production scheduling, engineering control, materials requirements planning, purchase control, manufacturing control and capacity requirements planning.

Production control systems are offered by most major computer manufacturers including IBM with Communications Oriented Production and Information Control System (COPICS) NCR with Interactive Manufacturing Control Systems (IMCS) and Burroughs with TMS (The Manufacturing System).

A package

This latter package claims to embrace: "All the elements of financial and production control on a single database." At the launch of the system in the UK earlier this year, Burroughs gave evidence that TMS had saved Stewart-Warner, the U.S.-based pneumatic tool and pump manufacturer at whose Tynemouth plant the first system was installed, £50,000 in the first year of operation.

ICL, the UK's largest computer manufacturer, offers two systems — Omac 29 for larger users and Safes 25 for the smaller company.

Comserv of Minneopolis, Minnesota, claims to be the world's leading independent supplier of mainframe-based manufacturing software.

In 1982, it showed a net income of $2.5m on revenue of $25m. It began operations in Europe in January 1983 and has already sold its system Amaps to seven UK sites including British Leyland, the Graviner subsidiary of Wilkinson Sword and Prestcold. The Leyland orders involved five separate sites.

According to Comserv, Graviner with its three Amaps modules — Bill of Materials, Materials Control and Material Requirements Planning has already quantified benefits approaching £250,000.

The second element which must be integrated to produce a comprehensive electronic factory is compnter aided design, an area dominated by the U.S. company Computervision but thick with competition from companies like Calcomp, PAFEC, Shape Data and the UK's CAD Centre Racal Redac and Ferranti Cetec.

According to Strategic Incorporated, the U.S. consultancy: "Not since the invention of the computer itself has the designer and manufacturing engineer been given as powerful a tool to do his work. Yet computer graphics is still an emerging technology."

The third element of the computer integrated manufacturing plant is computer aided manufacture (CAM) the digital control of the machine tools which cut and shape materials in the manufacturing process, as well as the trucks which convey the materials from the store to the workplace and the robots and automated handling equipment which move workpieces onto and away from the machine tool.

This includes the concept of the flexible manufacturing system, a linked array of manufacturing cells operated by robots where materials are converted to finished components or prodocts in a series of integrated operations.

That, then, is the vision of the computer integrated factory. The magnitude of the problem is indicated by the difficulty of creating the software to link the three essential elements—when surveys have shown that very few flexible manufacturing systems, the basic unit of the computer integrated factory, have yet been implemented successfully.

The Strategic study noted six major points:

- The emerging automation technologies require new skills, methods, equipment and organisational structures, all of which present barriers to the rapid implementation of factory automation.
- If new manufacturing systems are to be installed, the old have to be removed, renovated or abandoned. A single

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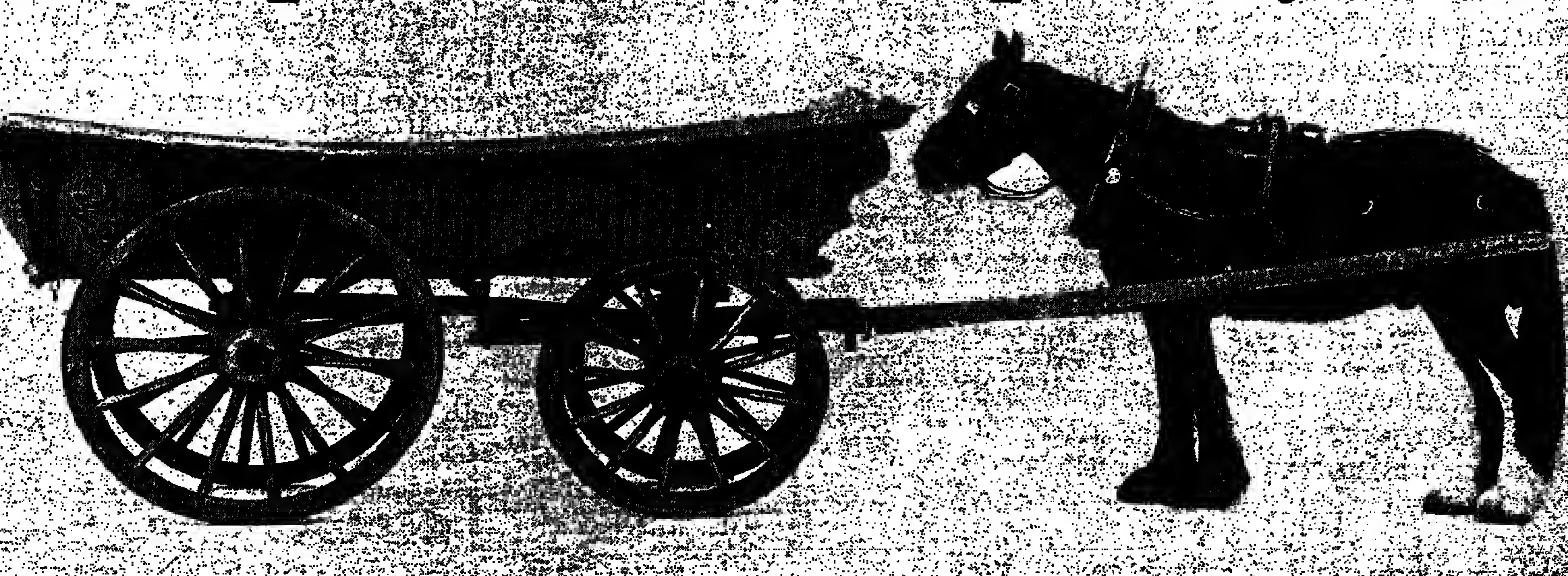
How most businessmen view the acquisition of a computer system.



As soon as the decision to get a computer has been made, most businessmen set about doing just that.

See all the salesmen. Talk to friends and associates.

Take computer magazines and read all the ads.

It's a well-known process, yet to the first-time buyer, it's a journey into the unknown.

And a recipe for disaster.

A computer is a machine. It has a capability.

Despite sophisticated electronics and the march of technology it remains only as good as its software.

Surely it is more prudent to examine the much wider and more complex range of software systems on offer, before committing the company to heavier metal.

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Because we will bring to you the ability to get in front and stay in front.

By simply producing the best in the business.

So, before you sign anything, give us a call.

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After all, we'd hate you to have to back out of a difficult situation.

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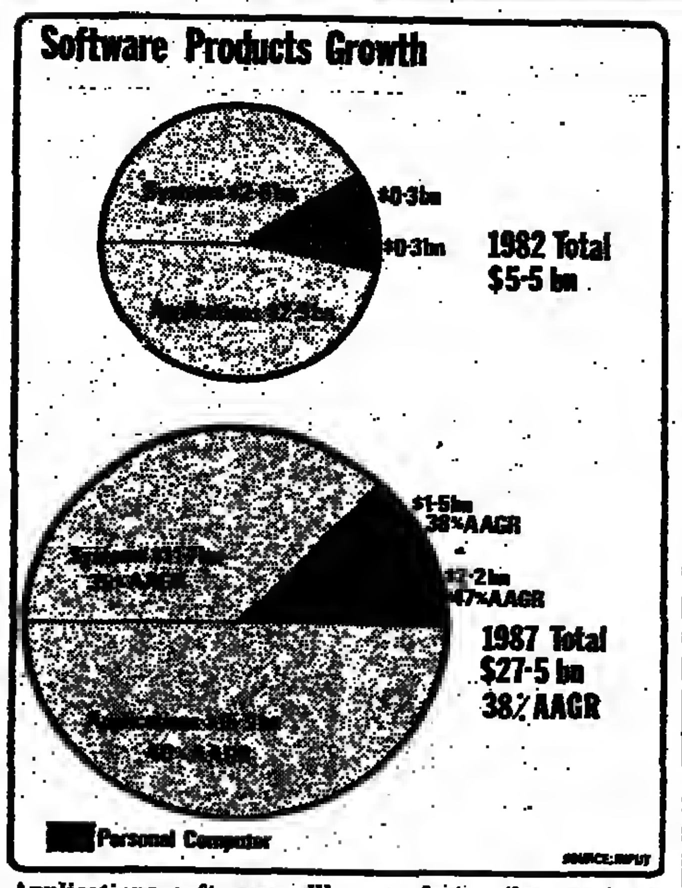
COMPUTER SOFTWARE V



Applications software will grow faster than systems software. Applications for personal computers, in particular, will grow at 47 per cent a year to 1987, according to world market analysts.

Factory of the future

CONTINUED FROM PREVIOUS PAGE

computer aided manufacturing system can cost more than $1m.

"It is essential that a plan be developed for factory automation that relates to the business objectives and a three-five year operating plan," says the study.

● It will be as hard to overcome human intransigence as computer software difficulties—"the resistance is most frequently found at middle management level."

● Factory automation is a fundamentally new development: "For years the idea of dividing work into small tasks . . . has been a manufactory philosophy. But the integrated, automated factory requires just the opposite concept. Data is shared and design engineers must consider the impact of their efforts on manufacturing equipment, methods and other resources."

● The savings from factory automation are real and will force acceptance of the new technologies.

● "Automate or liquidate" has become the slogan, but manufacturers are convinced of its truth. A survey in the U.S. revealed most respondents thought at least 25 per cent of all manufacturing plants would have CAD/CAM systems installed by 1990.

The significance of this for software is profound. The integrity of manufacturing software in a semi or totally automated environment is as critical as that of software in a defence system or plant control system.

There will have to be reliance on new techniques of software engineering and ways of creating fault tolerant software—just as hardware manufacturers have been forced to develop fault tolerant computers. For the automated factory, today's production control and CAD/CAM systems are just the beginning.

A world of asteroids and whizz-kid programmers

MATCH WITS with mighty Mages in the final battle for supremacy of the plant Xarg! Defend yourself from the attacks of plutonium-crazed mutants who will try to eat you alive! Destroy the 90ft-high, neutronium shielded, genetically-engineered laser-spitting mutant death camels before they invade your stronghold!

The computer game software business takes you into a different world—a world not just of fiends, mutants and asteroid explosions, but also of adolescent entrepreneurs, explosively growing businesses, and 14-year-old whizz-kid programmers.

As Nick Alexander, managing director of Virgin Records subsidiary Virgin Games, and the man in charge of a whole stable of teenage programmers put it: "I spend more time negotiating with mothers and grandmothers than with the programmers themselves."

Virgin Records decided to diversify into computer games because, as explained by Mr Alexander: "Compoter software, as the new entertainment technology, falls into our business. The sort of people who buy computer software are the same people who buy records—young, male, and teenage.

Five years on, computer software and computer programmers may be the stars, not pop musicians. We're already beginning to see the same rows between different software fans—arcade games freaks, adventure game freaks or sports simulation addicts—as happened between heavy metal fans and punks three years ago."

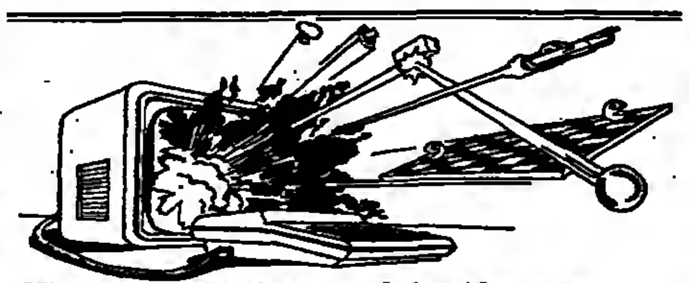
Virgin Games promotes its programmers like pop stars, taking them on tours of the country so fans can see them and experience their wares. The difference is that the venue is not concert halls but the "Virgin Bus," a double-decker loaded with computers, video screens and games.

Virgin's young programmers usually get started, explained Mr Alexander, "because they get exposed to computing at school and then develop it as an obsessive hobby. They spend 12 or 14 hours a day with their home computers in the holidays, wrapped up in another world."

Geoff Minter — not one of Virgin's young programmers, but designer of the mad mutant camels game, sold by his own company, Llamasoft—explained that his computer skills were "all self-taught. We used to sit around at sixth form college designing games in our lunch hour. There was a Pet micro which no-one knew how to use, so I taught myself from books."

Mr Minter — who is now 21 — spends up to three months designing each game, which is then tested exhaustively by a panel of "games fiends" — and by his father.

He had the idea for the mutant camel game, for example, because he had "always had a soft spot for the beasts" and wanted to see them on a computer screen. The idea for another game, Hovver Bovver, came while he was looking at an immaculate law in the intervals between manning his stand at a computer show.



Microcomputer software and the videogame market: it is a world not just of space craft and asteroids, but of explosively growing businesses, as Joan Gray reports

Staffed by Mr Minter, designing the games; his mother, helping with the paperwork; and his father, with the testing, Llamasoft is a tiny enterprise compared to Virgin. But it has still shown the explosive growth now characteristic of the business. Hovver Bovver, for example, has already sold 2,000 copies at £7.50 each, and turnover has reached £500,000 since September 1982.

As for Virgin Games, Mr Alexander is expecting a turnover of £1m in the first six months from a planned investment of £1m in the first year.

"And in the long-term, who knows?" he added. "The market is worth £60m a year for computer game software in the UK alone in 1983, and we're aiming for a 5 per cent share. That means £3m a year for us at current levels, but the market projections suggest it is growing astronomically."

Virgin has joined consortia applying for three cable TV franchises, and is expecting further growth to come from the combination of home computers and cable TV as well as from exporting its games to the U.S.

W. H. Smith, now Britain's leading software retailer, British Telecom and Thorn-EMI have also all announced plans to send games to home computers over cable TV.

Mr Richard Wolfe, Director of Cable Programming at Thorn-EMI explained: "The idea is to provide a subscription service for games, and then the consumers can pay for them individually at the touch of a button—just like having a games arcade in their own TV set."

British Telecom decided to combine cable TV and computer games after the success of its games service on Prestel, where games were the most popular single category for residential use.

Mr Richard Hearse is managing director of Micronet 800, the joint project between British Telecom-Prestel, EMAP Business and Computer Publications and Prism Microproducts, which offers home computer users the chance to buy programmes down the telephone using Prestel.

Four thousand users have joined Micronet since the system started in March, and Mr Hease is confident 15,000 will have joined by next March. He is expecting 100,000 users by 1986. He is also expecting Micronet's turnover to be worth up to £2m in its first year—but this is small beer compared to his other company, Prism Microproducts.

Prism supplies racks of home computer software to shops including Rumbelows, Greens and even Harrods, and is now installing them at the rate of 50 a week.

After a first year turnover of £10m from last July, Prism is now "heading for its first £1m week in October," said Mr "It's a huge business—and it's frightening, in a way, because just two of us started it off."

Such soaraway success may be frightening—but it contrasts strongly with the troubles of many of the companies which make the home computers themselves.

Atari, Mattel, Texas Instruments, Dragon and Grundy are all having financial problems at the moment and there are some suggestions this may start to affect the now-booming home computer software industry, as some home computer hardware manufacturers try to increase their revenues by cutting software prices to boost sales.

Philip Nugus, Thorn-EMI's Marketing Director for Screen-based Entertainment, was distinctly gloomy. "There is a lot of software from the U.S. being sold at the moment at distressed prices because of the shake-out in the American industry," he said.

"For example, Atari has sold 5m or 6m cut-price units on the U.S. market and Commodore has cut its prices by a half.

"What is worrying is that this may find its way over here and the whole price structure in the UK could be affected.

"I'm not optimistic about the short term," Mr Nugus continued, "because there's been over-production and a gold-rush mentality and a lot of little companies jumping on the bandwaggon. Thorn-EMI has got enormous resources and we will ride out the problems because we see a long-term market—but there's going to be a huge price drop in software over the next year or so."

Careful marketing has helped Thorn-EMI get a 20 per cent share of the UK market for sophisticated comouter games, and to sell 250,000 units in the U.S. in less than a year.

All the company's computer games are tested by selected groups of users who are then interviewed by psychologists provided by Saatchi and Saatchi and the results are fed back to the games designers.

For the future, Thorn-EMI is committed to a range of home computer software including not just games but also educational programmes and "personal productivity packages" such as home word processing, budgeting and filing.

The home computer software market in Britain has so far been dominated by games, but now personal productivity software is tipped as the new growth area.

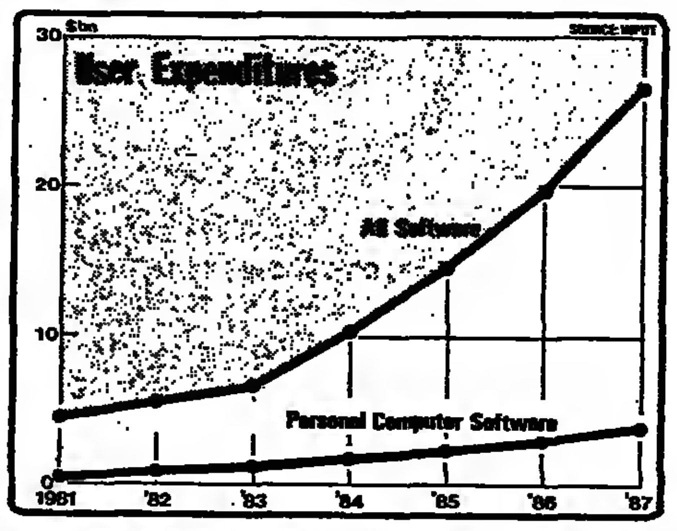
Mr Herbert Blumstein, managing director of the new UK subsidiary of the giant American software distributor Softsel, suggested the British market could start to follow the American pattern, where there has been far less of a division between home and business computers.

As more powerful computers become less expensive and as people outgrow their first machines, they will move on to more difficult tasks such as word processing and home accounting, said Mr Blumstein.

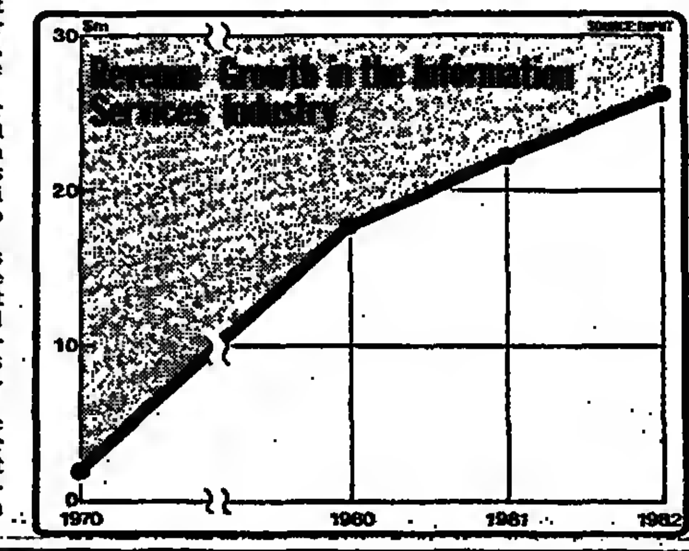
"The business and home software markets will not merge completely," he predicted, "but as machines get more powerful and friendly more people are going to feel comfortable having them at home."

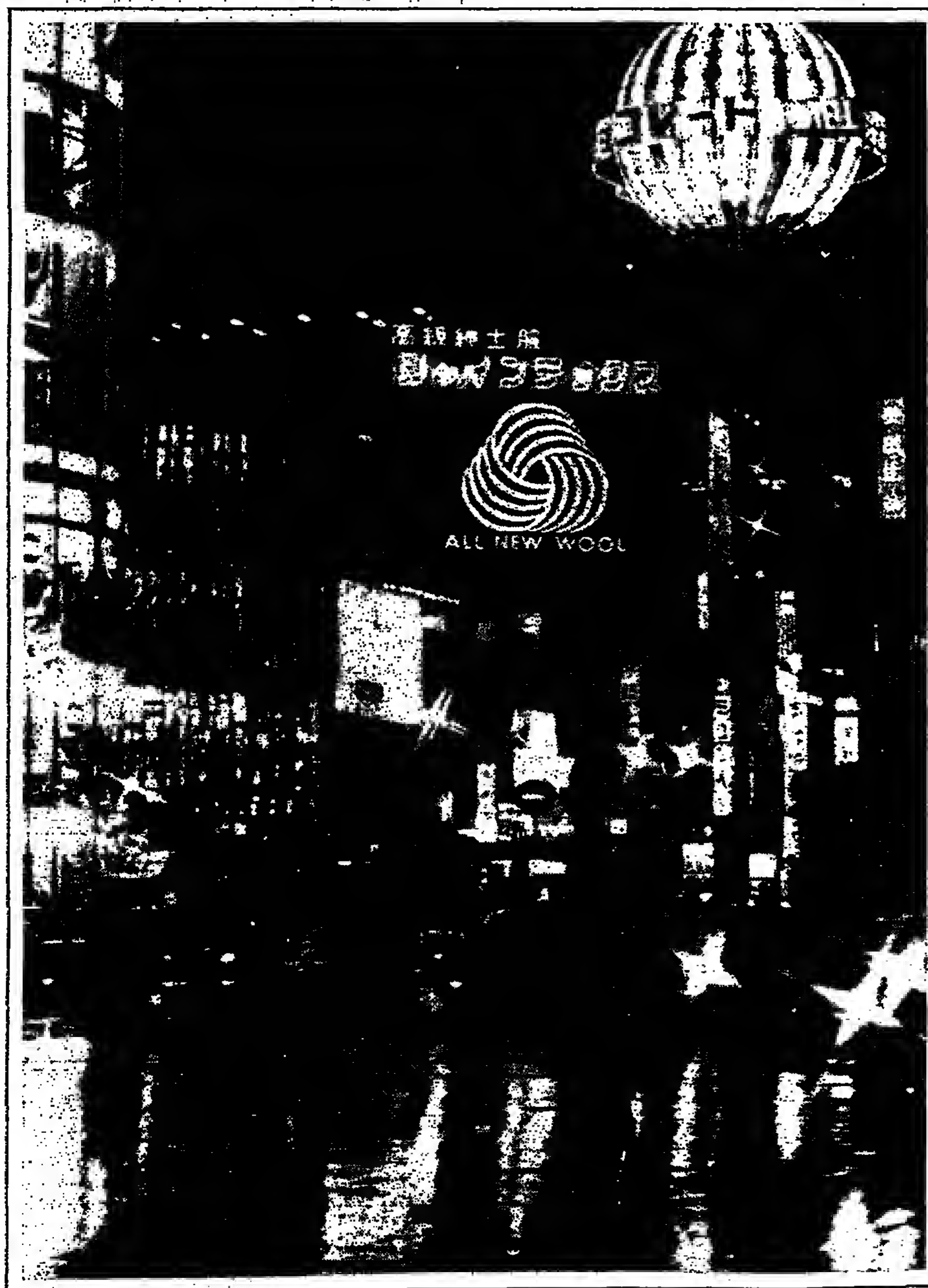
This trend has been spotted at all levels of the industry, from giants such as Softsel to small companies such as Salamander Software of Brighton, which, said marketing director Paul Kuczora, is thinking of moving into home business software because the games software market is getting just too crowded.

Very soon, Salamander could be concentrating on teaching home computer users to wrestle with word processing and the mighty taxman, rather than with the Mages of the planet Xarg.



User expenditures worldwide. The UK software market, in particular, could soon follow the American pattern, where there has been far less of a division between home and business computers.

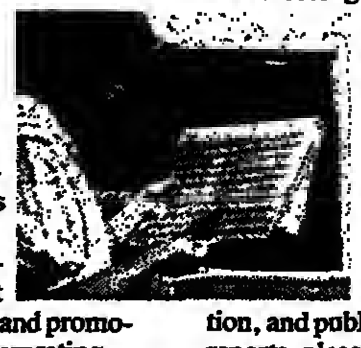




How Raytheon software helps the Woolmark make the international scene.

Up in lights on Tokyo's Ginza or sewn into a label in London's Savile Row, the Woolmark must be protected. And this is the job of the International Wool Secretariat (IWS).

When this organization decided to computerize, it chose Data Logic, a Raytheon company headquartered in the U.K., to supply system and software design.



That system now helps IWS monitor and disseminate new developments and techniques in the manufacture and care of wool, and keeps textile producers and retailers abreast of the latest trends in fashion, styling, advertising, and promotion. It also assists in tabulating and interpreting market research, economic analysis, and sales forecasting.

Yet this is just one example of Data Logic's long experience in computer systems, embracing a great variety of applications.

In the U.K. alone, these range from evaluating the performance of students in the Army Apprentices College, to a nationwide distributed processing network for England's largest independent dairy, all the way to a computer-controlled operations system for the world's largest refrigerated container facility.

The result is a total systems business geared to the burgeoning growth of automation throughout industry.

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Ada has a bright future

An entire industry has been built up around Ada, the new language and programming environment, which some see as the Cobol of the 1980s. Maggie McLening examines Ada's importance and prospects

DEFENCE BUDGETS command the cream of computer technology, much of which eventually filter through to the commercial sector. Developments such as viewdata, PABX systems, graphics and computer simulation were all tried and tested in military establishments before finding their way on to civilian desks.

This could also turn out to be true for the programming language, Ada, which is due to become the standard for the U.S. defence market from January, 1984.

U.S. Government backing has proved a powerful launch-pad for languages in the past—Cobol being a good example.

With the original government endorsement 20 years ago now largely forgotten, Cobol is still the standard commercial language for 70 per cent of data processing installations, and has entered its second childhood on microcomputers, courtesy of systems software house Micro Focus.

Ada, although no Cobol-clone, may have a similar future mapped out in the real-time systems area; initially on large-scale projects such as process control, avionics, robotics and telecommunications.

The concept of Ada emerged in 1974, when the U.S. Defence Department discovered that it was spending $3.5bn a year on software alone, and decided to cut down. Since much of that figure was caused by contractors supplying systems in about 350 different programming languages, the Defence Department announced that one all-purpose language would be adopted as a standard.

Requirements

Coral 66, already chosen by Britain's Ministry of Defence as a real-time standard for the UK, was rejected as being too limited. The U.S. Defence Department wanted a language which could be used to write communications command and control networks, but be equally suitable for embedded systems used to guide cruise missiles: a scope too wide for any existing programming language.

The U.S. produced a series of draft requirements specifications, known by titles such as "Strawman," "Tinman," and "Ironman," which were vetted by the Services, as well as industrial organisations and universities. The final version, Steelman, became the basis for a detailed definition of the language, submitted by CII Honeywell Bull in France, which was eventually selected for development work.

Named after the patron of Charles Babbage and (supposedly) the first programmer, Augusta Ada Lovelace, Ada was intended to become the centre of a Utopian development environment, including the best features of existing languages and a range of programming tools.

The result is a high-level, algorithmic language looking similar to Pascal, which incorporates many innovations programmers everywhere banker after.

● Ada is named after Augusta Ada Lovelace (1815-52), the only child of Lord Byron.

● Left: Mr Michael Pickett, senior Ada consultant at CAP.

One of the distinctive features of Ada is the use of generic routines, to eliminate duplication of coding for identical processing of different data items. The type and description of the item are supplied as a parameter to the routine, and the classification may include the definition of a "user-view," masking some aspects from general or unauthorised view.

The ability to restrict an end-user from accessing parts of a system is obviously essential in the defence market, but it is also becoming common practice for commercial systems where, to simplify operation, a front-end interface may be installed.

Security routines then form an invisible barrier between the external view and the heart of the system, with access across the divide limited to those with authority.

Another important technique embodied in Ada is that of "delayed rendezvous" for real-time systems. This speeds up processing by enabling a program to perform tasks as soon as the means is available, rather than consecutively.

When tasks are completed, the results are accepted back into the program at a pre-defined entry (or delayed rendezvous) point.

Less innovative, but accepted as an important aid to high-quality programs, is modularity and the ability to compile and test routines separately, combining them into program later. This simplifies system design and makes maintenance work more straightforward because only small areas need to be changed and recompiled.

Ironically, what was intended to be one of Ada's greatest strengths could turn into a weakness. Cramming multiple and often disparate requirements into a single language is bound to make the end-result unwieldy.

While the language may be easy to use in different types of applications, the compiler has to cater for the sum of the parts. The result has been that most of the compilers produced are too slow to be commercially viable and suitable only for programmer training.

Enthusiasm

Ada, however, has captured the imagination of software houses, both within and without the defence clique. There are more than 37 Ada compilers, of varying pedigree, on the market, only three of which have been officially approved by the U.S. Defence Department.

New York University's Courant Institute was the first to run the Ada Joint Program Office's 1,326 test programs through its interpreter successfully.

Rolm Corporation's compiler was second past the post and, more recently, Western Digital formed the triad, the latter companies having been selling uncertified products for some months.

The UK software house CAP, which also supplies an as yet unapproved compiler from Telesoft in the U.S., has been experimenting with Ada for robotics and process control.

Over-subscribed training courses and the sale of five Ada compilers in the last three months have convinced CAP staff of the demand for Ada outside defence.

Several of the companies to buy Ada compilers have been computer manufacturers, which suggests that Ada ripples are spreading, but Mr Michael Pickett, senior Ada consultant at CAP, believes that the trend should not be over-estimated.

"There are probably around 12 companies in the UK that are dabbling with Ada," he said. "In the sense that Cobol is the standard for commercial systems, Ada is unlikely to reach a similar position for real-time systems over the next 10 years because of competition from Fortran.

Fortran has been the workhorse of scientific programmers over a number of years and it has gained considerable momentum."

When Ada becomes the U.S. standard in January, however, the Ministry of Defence and all Nato contractors, such as British Aerospace, GEC and Plessey will be drawn into the Ada net, compulsorily. These companies are bound to apply their defence expertise to scientific and engineering applications for the commercial market, so Ada will arrive there by default.

Plessey and GEC are, in any case, part of the funding force behind the work of Ada Group, together with the Ministry of Defence and British Telecom.

AGL, comprising staff drawn from ICL, Software Sciences, SPL International, and Systems Designers, is about one-third of the way through a project to develop a Minimal Ada Program Support Environment (MAPSE), incorporating the Chill telecommunications language.

Work has cost £3.5m so far, mostly supplied on a "drip-feed" basis, with a further £1.2m awarded at the end of September, but AGL needs around £7m more to complete the project.

A contract has yet to be signed by all the parties, however, and a final decision has to be made on requirements because, for example, BT is the only sponsor requiring Chill. BT will hold rights to the finished MAPSE, with marketing rights going to companies forming AGL. The newly-elected AGL chairman, Mr Martin Jordan is confident of Ada's long-term prospects outside the defence area.

"Ada will proliferate in the technical market as large companies adopt it, and universities will teach it because it is the most advanced language available," he explained.

"By the end of the decade, Ada will be the language everybody will learn and use."

Amid growing enthusiasm for computer technology and increasingly sophisticated software, Michael Dixon, Education Correspondent, highlights some often-forgotten factors in the human decision-making process.

Technology has its limitations

THE INSTANT the radar-linked computer decided that the unidentified aircraft were on an attacking course, the system prepared to launch Armageddon. Through the control-room displays it swiftly supplied the commander of the U.S. Navy task unit with the best tactics for interception, back-up deployments and so on.

"I'll never forget how he reacted," says Dr Donald Broadbent of Oxford University's Department of Experimental Psychology.

"After glancing at the displays, he calmly flicked down the switches that cancelled them. Then he said in a southern drawl: 'Ah guess we'll just let this situation develop itself a while.'"

The result of that decision during an exercise with computer aids for military commanders was a boost to the Navy Captain's reputation. For the approach of the enemy aircraft turned out to be a feint. The *real* attack came later in another form and from an entirely different direction.

But when the Captain was asked why and how he had decided to ignore the computer system's warning, he was completely unable to explain. He had made was proved to be the right judgment without any idea clear enough to be expressed in words of either what information or what mental processes he had been using to make it.

In doing so he exemplified a factor which Dr Broadbent, among other psychologists, feels is being forgotten by computer experts and lay people alike amid the growing enthusiasm about advances in information-processing technology.

Not everyone would go as far as the zealots who predict that computers will one day "keep us as pets." But there seems to be a widespread assumption that the development of micro-electronics, software and allied technologies will ensure that information-processing systems in the hands of a few highly intellectual people increasingly take over the world's decision-making from the less academically able majority.

Much is expected, for instance, of so-called expert systems which it is assumed will provide an instantly accessible and constantly updated compendium of the best human expertise in the field concerned.

But if a computer system is to stand in for human experts in that way, Dr Broadbent says, it must first be told unambiguously, and in detail, precisely what the expertise consists of — and how can that be done if in most practical fields (as distinct from purely intellectual pursuits, such as formal logic and pure mathematics) the human experts are not able to explain how they make their judgments?

Abilities

Besides military commanders, the Oxford University psychologist has lately been studying managerial abilities. He has tested the performance of about 200 people in managing extremely complex systems, such as a computerised model of a national economy.

The results show that the ability to manage effectively has no connection with the person's ability to answer questions, either before or afterwards, on how the managing ought to be, or was in fact, done. Such correlation as there is between the two is negative, implying that the better explainers tend to be the worse practitioners—but it is not statistically significant.

This finding has so far been received in stunned silence by an academic profession which has hitherto largely taken it as self-evident that in an increasingly complex and computerised world, management can be safely entrusted only to people of high intellectual ability as measured by their ability to answer questions in words and figures.

But however much it conflicts with the conventional wisdom about education, Dr Broadbent's evidence merely supports something demonstrate by the philosopher Kant, 200 years ago. He showed that the intellectual procedures developed by scholarly education, such as logic, amount only to *rules* for thinking in a self-consistent way.

Yet the ability to apply those rules wisely—as, for instance, in deciding which bits of the available information are relevant to a real-life problem and in which way—depends on a different mental faculty.

Kant called that faculty "judgment . . . the want of which no scholastic discipline can compensate." The only way to develop judgment, he added, was by practical *exercise*.

Moreover, good judgment looks likely to become more and more important than the different mental skills promoted by academic education as information-processing technology advances.

For one thing, computers by their nature are better than people at intellectual procedures of the kind measured by IQ tests. But for another, while they will make available increasing amounts of information, they can never be made capable of necessarily distinguishing between the true and the false, let alone of determining which of the true bits should be applied in what ways in tackling real-life problems so as to provide wise solutions.

There is consequently a clear need for the education system to stop concentrating almost exclusively on intellectual skills, and to equip itself with the practical forms of education required to develop judgment.

Education

Fortunately, the present UK Government *has* made a first move in the right direction by funding experimental technical and other practical courses for schoolchildren aged 14 and upwards. But the move does not hold out much hope for the early establishment of a generally available alternative educational route by which children can develop their judgment through the medium of successively harder practical exercises.

The total funds being made available for such experimental courses represents less than 1 per cent of the £14bn spent overwhelmingly on conventional academic activities and Sir Keith Joseph, the Education Secretary, sees no way of increasing the proportion to be invested in innovatory projects.

So, while any move in the right direction is better than none at all, the Government's present effort to equip future citizens with better judgment would seem to be a classic case of too little, too late.

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More than 350 exhibiting companies are taking part in the show.

TOP 20 COMPUTER SERVICES COMPANIES IN WESTERN EUROPE (1982)

Company	Country of majority sharehldg.	Owned by	Services§ RCS	BATCH	SP	SS	Employees	Total revenue ($m)
IBM RCS*	U.S.	Public corporation	X	X			n.a.	180.0
Scicon Group	UK	BP	X	X	X	X	3,500	175.4
SG2 Group	France	Societe Generale/Private	X	X	X	X	4,290	165.4
CISI	France	CEA (Government/BNP	X	X		X	2,700	162.7
Cap/Gemini/Sogeti	France	Independent			X	X	4,000	155.7
Geisco	U.S.	General Electric	X		X	X	1,200	150.0
Finsiel Group	Italy	IRI/Banca d'Italia				X	2,320	139.3
GSI	France	CGE	X	X	X	X	2,350	138.2
Datev	Germany	Tax Advisers Co-operative	X	X		X	1,830	101.2
Sema Metra Internatnl†	France	Paribas		X	X	X	1,400	88.6
CCMC	France	Public Accountants/Staff/ Societe Generale (F)	X	X			1,180	81.0
Control Data	U.S.	Public corporation	X	X	X	X	1,100	74.4
Thomson Informatique‡	France	Thomson-CSF			X	X	1,750	74.1
Datema	Sweden	Johnsson Group	X	X		X	1,100	73.8
Telesystemes	France	PTT	X	X		X	1,590	73.6
Sligos Group	France	Credit Lyonnais/Tymshare	X	X	X	X	1,690	68.2
CIG	Belgium	Societe Generale (B)	X	X	X	X	1,040	66.3
Kommunedata	Denmark	Local government	X	X		X	1,470	65.5
SESA	France	CGE/Cap Gemini Sogeti/ Staff			X	X	680	59.6
ICL Consultancy and Training	UK	ICL			X	X	1,110	59.3

* IBM Remote and Batch Computing Services revenue only is included. IBM captive revenue is excluded. † Sema Metra International, Logica and Systime: computing services revenue only included. ‡ Thomson Informatique: includes TITN, Syseca and Answare. § Key: RCS, Remote Computing Services; SP, Software Products; SS, Software Services.

Key applications in the office

WORD PROCESSING: Many companies, having come to grips with basic word processing systems, are now looking at ways in which word processing and text editing can be extended, as Elaine Williams reports.

WORD PROCESSING has probably become the major application in office automation. Software has been written for a variety of computer systems, from home computers, to single user's dedicated machines to the full office system with a central computer serving a large number of terminals.

In many ways software is rather an intangible item being simply a set of instructions which will determine what you can do with a machine. In word processing, the functions that it offers to users are important because of the effect it has on office environment.

Few companies now look at word processing in isolation—it is usually part of an overall office information strategy.

Word processing comes in three different types of packages. It can be dedicated software which is written specifically for a particular machine, it can be disc-based software, such as WordStar, which can be used on a variety of general purpose machines such as the Sirius or IBM personal computer, or it can be software stored on a read-only memory and plugged into home computers. This includes packages such as View or Wordwise which can be simply plugged into the BBC home computer.

In some packages, users need only press specified keys on the typewriter-style keyboard, in others the user must remember codes to carry out the editing functions.

It is also the case that the quality of word processing packages has improved to such an extent that even general purpose microcomputers can carry out a level of word processing almost as sophisticated as that of a dedicated machine.

For example, this article was prepared on a humble BBC microcomputer using a programme called View, developed by Acorn, maker of the BBC machine. But View is not the only word processing package for the BBC computer though it is one of the most powerful.

Larger microcomputers, which use one of the major operating systems and are aimed firmly at the professional user, have an even wider choice of systems. Those on the CP/M operating system can pick from well-established packages such as WordStar, Spellbinder, Lexicom, Microscript, Wordcraft and Superscript.

All the major software companies such as Peachtree, TABS, Systematic and Graffcom have their own proprietary word processing software.

Manufacturers and software companies are also looking at the growing market of turning electronic and electric typewriters into word processors. This is often seen as the most painless way of making the transition to full word processing and is considered to be one of the easiest ways for typists to learn word processing techniques.

For example, the OEM group offers such a system and AES, one of the world's top word processor suppliers, has recently supplied an agreement with WordNet, a company which specialises in providing links between typewriters and word processing.

Many companies, having come to grips with basic word processing systems, are now looking at ways in which word processing and text editing can be extended.

Basic systems provide the user with facilities such as formatting, justifying text and moving text around; more sophisticated packages will even provide some search facilities whereby users can hunt for names, replace one name mentioned throughout a text by another which has been specified, for example.

The general view is that information processing is now important and that the manipulation and sharing of data is part of the word processing system. Increased sophistication comes in the ability to produce simple bar charts, organisation charts, and tables; password protection of documents; spelling aids; versatile multiple and snaking column features which allow presentation of side-by-side translations, for example or newsletters and technical documents. AES, for example, provides such facilities in its enhanced editing package for its 7200 word processing system.

Another important area for growth is seen in communications added to the overall word processing packaging. Large dedicated systems, such as those produced by Wang, do have communications options which allow documents to be transmitted not only around the confines of the office but between several offices.

This trend is also filtering through to the general purpose computer systems. For example, ACT which is a distributor of the Sirius computer has recently developed Micromail which allows documents already prepared on WordStar, for example, to be transmitted to other subscribers to the Micromail network or to be transmitted via the international telex network.

Users to the Micromail network need a modem which allows the computer to be connected to the telephone network to ACT's central computer. This routes the calls to any other machine specified on the network and also formats the system for the telex network. The software in the system guides the user through the steps necessary to transmit the information.

Stricter safeguards sought

SOFTWARE PROTECTION: It is essential to prevent illicit reproduction and use of software to safeguard the industry, for the benefit of manufacturers and the market alike, as Ray Snoddy reports.

A NEW momentum has entered attempts to protect computer software from illicit use in the UK. It results partly from a desire to prevent software piracy—although that is neither as blatant, widespread or as simple as the copying of video cassettes.

But the main reason for renewed interest in the field is the challenge of finding efficient and cost-effective methods of protecting expensive business software in the greatly expanded market made possible by the falling price of professional personal computers.

"There is a tremendous amount of activity in this field," says Mr Donald Davies, a data protection specialist at the National Physical Laboratory.

The fear is that with more and more people using sophisticated software it will be increasingly worth their while to go to the effort or cost of bypassing existing technical methods of protection such as dongles or non-standard disk formats.

The National Physical Laboratory is itself involved in a new initiative with the British Technology Group to form a consortium together with the computer industry to try to find a solution to the problem.

Dr Brian Wichmann of the information technology division at tha NPL, first suggested the need because he realised that the existence of sophisticated computer systems costing as little as £5,000 made expensive software more vulnerable.

"The protection of the software developed for these systems against illicit reproduction and use is essential to safeguard the software industry with consequent benefit for both manufacturers and the market," Dr Wichmann argued in a letter to potential members.

The first step will be to conduct a survey of existing software protection devices and see how they could be improved or new devices developed.

Dr Wichmann believes that the low cost of microprocessors, which had caused the problem in the first place may also contain the seeds of a solution.

One idea is for the creation of a "super dongle"—a security attachment to the computer—which would have a microprocessor designed to carry out essential parts of any program run on a computer. Those who did not have the dongle, which would be protected against tampering, would not be able to use a program.

The aim is to produce a standard product which would be offered, to the members of the consortium in the first instance, for manufacture under licence.

The real trick, Dr Wichmann admits, is to produce a device of a degree of sophistication and cost commensurate with the value of the software.

Mr Simon Elsom, of the NCL, formerly a research student at Aston University, will be carrying out the main survey for the consortium. He has already conducted surveys of industry attitudes to software protection and has produced some surprising conclusions.

Mr Elsom told the software Protection group of the British Computer Society, earlier this year, that although there was no room for complacency, "piracy should be seen in perspective" and did not seem to be widespread. Unauthorised copying by end-users did not seem to be all that common, Mr Elsom concluded, after a survey of 351 companies in the field.

Only 16 per cent of companies had knowingly suffered from piracy by dealers—half of them microcomputer suppliers.

Suppliers to mini and mainframe computer users tended to rely on legal protection and the inherent nature of the products.

It was microcomputer suppliers who tended to rely on technical means of protection.

As the NPL and BTG are embarking on a software protection study, a telesoftware research project has reached a critical stage at the National Computing Centre.

Again looking more towards future potential markets than any present threat from piracy, an NCC team has been looking at ways of distributing expensive business software by phone or viewdata.

The project is now at the stage when both the software and the hardware have been defined and the NCC is looking for a manufacturer to invest the £200,000 or so that might be needed to bring a device to the market place.

The device is based on a tamper-proof modem containing a key piece of code which allows sofware sent in encrypted form to be unscrambled.

The unscrambling is based on public key cryptography in which each party has both a public and a secret key. Any party can send a message—in this case software—to another by encrypting the message with the public key of the recipient. Only the recipient can unscramble the message with the matching secret key.

Mr David Fairbairn, director of the NCC, hopes that such a device could be sold for between £100-£200 and that a larger home market could thus be created for the British software industry.

Such a system would allow expensive business software almost to be on tap with the modem device acting as a kind of meter for billing, say, 10 uses of a particular piece of software.

It would also allow sophisticated software to become available to consumers for a trial period before purchase without the danger of illicit copying.

One small company, Open Computer Security of Brighton has already announced a software encryption device based on public/secret key concepts.

The device, called Padlock, has already gone to major software houses for evaluation.

Open Computing, which designed the authentication procedures for CHAPS, the Clearing Houses Automated Payment Scheme due to go live in February, believes it has about a six month lead in what could clearly become a competitive market.

In Padlock, software always goes to the user in scrambled form and is unscrambled in real time by a device housed in a tamper proof module. The scrambling is based on the American DES algorithm and the key to the code is protected using public/secret key techniques.

But for the moment the most common technical methods of protecting software are dongles and disk formats.

One of the most popular forms of software protection is the use of a wide range of non-standard formats for floppy disks. A track or section of the disk may be used outside the normal operating system or recorded between the normal tracks.

Such systems clearly offer some protection. The trouble is that there are copy programs commercially available which can be used to unpick them.

There are also a wide range of dongles—physical modules added on to the computer—containing an identification code or some other method of authenticating the software.

Dongles have been becoming more sophisticated but specialists in the field are still confident they can duplicate or simulate the effects of current dongles.

Mr Mike Wood of the NCC's privacy and security division takes a phlegmatic view of the copying problem. Successful software products such as CPM and Wordstar have indeed been copied, but this has not detracted seriously from their eventual profitability.

"By and large, people are prepared to pay the market price for good software," says Mr Wood, who believes that few British companies would be prepared to buy "hole-in-the corner" software.

He believes that if software companies paid a lot more attention to producing distinctive packaging for their products, it could create a fashion effect and encourage people to buy the authentic version of a program.

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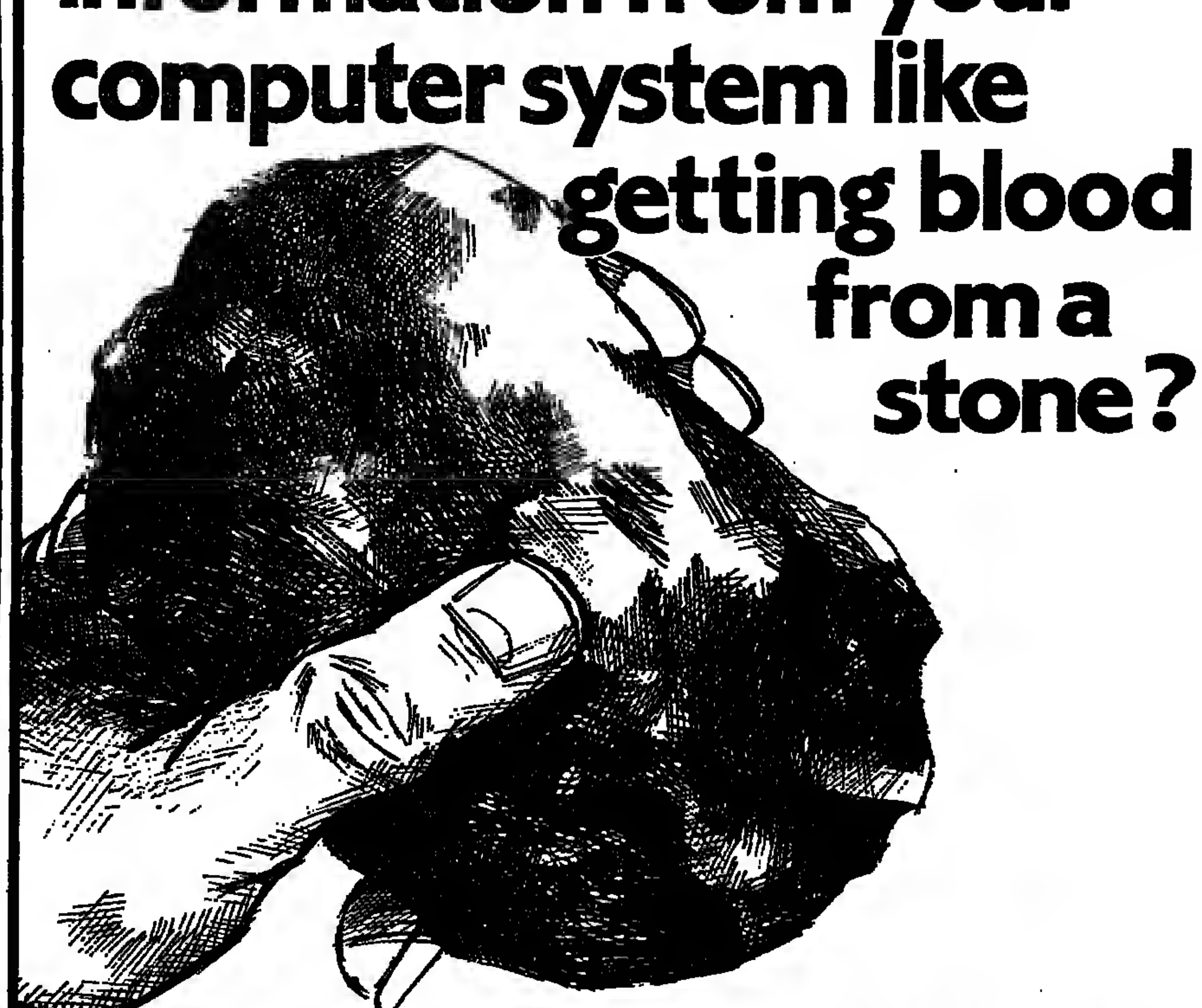

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CASE STUDY: THE ROLE PLAYED BY FINANCIAL PLANNING SOFTWARE

Package helps to clinch a deal

WHEN Timpson Shoes handed over £40.4m recently to Hanson Trust, the William Timpson shoe shop chain became a family company again.

It is an unusual deal. Timpson's was a family company until it was bought out by UDS in 1972, for £28m. UDS was in turn bought out by the industrial holding company Hanson Trust in April this year, and as part of the plans to dispose of some UDS assets, Hanson has now returned control of the William Timpson chain of shoe shops, established 1865, into the hands of John Timpson, great grandson of the firm's founder. The new holding company, Timpson Shoes, was formed by the present management team.

The buyout, like all such negotiations, was preceded by an enormous amount of planning and calculation. While the Timpson board and family trust has overall equity control, the management team — managing director, Mr John Timpson; financial director, Mr Peter Cookson, and the legal advisor, Mr Roger Lane-Smith — bad to seek the support of Candover Investments to back a leaseback and sale scheme involving the Timpson property.

Candover, a specialist in this sort of buyout, is supporting £26m of the £40.4m deal, and to convince both backers and sellers, Timpson's new holding company had to come up with figures which promised a strong future for the Timpson chain. To do that, they used the company's considerable computing resources, and a financial planning software package from EPS Consultants, called FCS.

Timpson's has a chain of 440 shoe stores and repair shops throughout the North and West of England, with several shops in city centres such as Glasgow, Birmingham, and its home town of Manchester.

The property figured moch more strongly in the deal with Hanson than such factors as goodwill and brand names, but the main problem was deciding on what proportion of the total deal the property should represent.

Where the system scored over 'pen and ink' was in its ability to produce timely instantaneous and correct analysis of varying assumptions

It was in these negotiations that the FCS package came into its own.

"Even after the sale was agreed in principle, we needed to agree with Hanson on the sale and leaseback of the high street shops and other assets," explained Mr Peter Cookson.

"We had been working for some time on the deal, since before Mr Honson bought the business, but we had to keep our ideas on finance very flexible. Ours is a very seasonal business: the cash flow changes with the seasons, and as time moved on, we had to change our business plan."

Candover Investments, which was closely involved in the negotiations, had its own ideas on what it wanted from the company in terms of facts and figures.

"We wanted a summary for the whole group: a bird's eye view of the business for the last five years and a forecast of the plans for the next five years," said Mr Stephen Curran, who as deputy chief executive at Candover was most closely involved in the Hanson deal.

"We wanted a spreadsheet which would use identical formats for the figures, so that we could see trends."

The obvious tool was the FCS financial planning package which had been in operation on Timpson's Univac System 80 minicomputer for some time. The FCS package is one of the most widely used pieces of financial planning software, and although it was late to adapt to the micro-spreadsheet boom started by Visicalc, it has an extremely high reputation among its big business users, and is probably still the most popular package of its kind despite its low profile and high price.

In the micro version, the package costs under £1,000 but most of EPS Consultants' prestige users have mainframe versions. These cost between £60,000 and £70,000 for the complete system, depending on the machine on which it runs, and include statistics and forecasting modules, risk analysis, graphics, multi-dimensional consolidation, screen management and a relational database.

Not everyone needs every module, so that the price typically works out between £20,000 and £30,000.

FCS has been running at Timpson's since 1978. "If you pay for a product you bave to use it properly" said Mr Cookson. "It's only expensive if you don't." Timpson has had thorough use ont of FCS even before the buyout. FCS was used to do stock forecasting, branch budgets and produce monthly management accounts, as well as doing the company's current cost accounting and dealing with fixed assets.

It was fairly simple to use FCS to build the models needed to assess the various methods of financing the buy-out. The data was already there for use, and it was a matter of varying the analysis. Like most financial planning packages FCS allows its users to try out different factors on the data, known as "what if" functions since all the data is manipulated by the package to produce figures which show the impact of possible varying factors.

"As the situation developed, revised versions of the plan became easy to produce" said Mr Cookson. "It was like trying to hit a moving target, because every time the costings changed we had to rejig our figures and end up an an optimum solution for the business."

Mr Peter Cookson, finance director of William Timpson, the shoe chain, which has recently completed a management buyout from Hanson Trust

Candover was anxious to try out its own assumptions on the model built by Cookson. The company worked on two models, one of the company operations, and the other of the financial structure itself.

"It was a matter of substituting one form of finance for another and seeing what impact it had on the cash flow of the company" said Mr Curran. "The biggest variable was the proceeds from the sale and leaseback of the properties." As time went on they arrived at the figure of £26m of the total purchase price, but the team needed to react fast, and according to both Curran and Cookson, FCS's ability to produce instant variations on the basic plan was absolutely critical in the buyout.

Candover had used Visicalc but found it not sophisticated enough to cope with the huge amount of data and many variations needed.

Timpson also had a microcomputer package, Sorcim's Supercalc, running on a Superbrain micro, but according to Cookson, no micro package could have coped with the sophistication and accuracy needed to work out where to split the sale and leaseback proportion of the deal with the equity finance.

"One of the things where FCS scored was the inbuilt tax routines and interest calculations. Correct treatment of the Advanced Corporation Tax, for example, is easy with FCS but would be impossible with something like Micromodeller."

FCS's superiority on this score comes from its ebility to re-use existing models, and to deal with tricky simultaneous equations, such as those involved in interest charges, making them transparent to the user.

Cookson put the models together himself, and, while ha is no stranger to financial planning packages, feels that FCS is easy enough for anyone to use "idiot-proof," in fact.

While Timpson Shoes team had been preparing for their buyout since the beginning of the year, the process was time-consuming, and had to be kept secret.

"Doing things this way meant that the accounting department didn't have to spend too much time on it, and financial control wasn't sacrificed while the re-financing was arranged" said Mr Cookson.

"We managed to keep it all within our very small team, and without jeopardising the day-to-day running of the business."

One point in which FCS failed was the management of the details of those 440 high street properties. The chief eccountant, Mr Neville Abbott had to load all the property details on a separate system, using the Ashton Tate micro database dBase II. He produced his own calculations for the property, and then transferred the totals into the FCS corporate model.

'We managed to keep the project within our very small team, without jeopardising the day-to-day running of the business'

FCS is not a custom-built database, and its strength is in manipulating and forecasting, not simply "house-keeping."

"Where the system scores over pen and ink is in its sensitivity analysis" said Mr Cookson.

"Instead of working as a mental navvy, I could instantly show the effect of varying assumptions. The ability to produce timely instantaneous and correct analyses of the situation was paramount in getting the deal."

Claire Gooding

SOFTWARE/expo EUROPE

SOFTWARE/EXPO is a three-day conference and exhibition which aims to bring key leaders in the software industry at London's Wembley Conference Centre from November 8-10 1983. The event is intended to provide a step-by-step solution to software selection and use in a market place that has seen dramatic changes in the past few years.

Among the speakers will be Mr Doug Eyeions, director general of the Computing Services Association; Mr William Frith of Zynar and Mr Tony Lazzerini of Plexus Computers.

For more details of Software/Expo, contact Online Conferences, tel: 01-868 4466.

New developments in operating software for the microcomputer

The microcomputer brought the opportunity to make software portable, a revolution which has brought about a huge new industry, as Claire Gooding reports here.

THESE DAYS it is difficult to be entirely ignorant of computer software: it is appearing on the shelves of high street shops, and even in advertisements for shoes.

It is no longer news that the microcomputer—or any computer—is useless without the software or application which does a particular job. And most people know that when they go to buy a system, it's the software which is the expensive part.

Applications of computer software may well be dealing with familiar parts of your business: accounting, or possibly stock control. If it is well written, you should be abla to find your way around it easily, with or without the belp of a manual, and make a decision on whether it suits your neads or not.

Less "visible" is the operating system with which the application runs. Software is divided into two rough categories: the application, which does a particular job and is written for end users, and the systems software, which deals with the machine itself, and forms a bridge between the machine and the application.

Sometimes systems software manages or creates other software: languaga computers, for example, such as Cobol and Pascal, are "systems software."

Functions

The operating system is also systems software, and does the job of "managing" both the machine functions and the application. It is a sort of "housekeeper," dealing with the operations which happen in every application such as fetching, carrying and returning all the data the application needs.

The operating system sits on top of the machine itself, and because it has to do such jobs as I/O—input and output from the storage medium to the application—it is usually written in very low-level machine code, which works faster than high level languages like Basic.

Computers usually hava "native" operating systems which are written in the particular machine languaga of the microprocessor in the machine.

The operating system deals with all the applications running on that machine, and the applications themselves will contain "hooks" which connect with the operating system. These are used whenever the application needs to interact with the machine, perhaps to activate a device such as a printer, or to take data off a disc.

In the "old days" of the mighty mainframe, each manufacturer wrote his own "native" operating system for his mainframe. Once the computer's operating environment was written, it was extremely difficult to change: it bad to be kept consistent, even with new releases of operating software, so that existing applications could still use the operating system (OS) without being changed themselves. Users then find themselves "locked in" to a particular operating environment.

Because of the need for speed (large machines have to manage thousands of I/O transactions in seconds) operating systems have to be written in low-level code. That means they are written and maintained by systems programmers, who are more concerned with keeping the computer running smoothly than in making things easy for the operator.

Systems software — and operating systems, in particular —used to be esoteric stuff, and the end-user rarely knew what operating system his mainframe ran, nor did he ever need to know.

The microcomputer changed all that. Software—applications and operating systems—used to belong to one machine, and need re-writing if they were moved on to another.

But the microcomputer brought the opportunity to make software portable, a revolution which brought about a huge new industry. Manufacturers couldn't rely on their users being locked into applications which would only run on their particular machine, and suppliers could write software packages which would work on many different machines, not just the one.

Portability started with CP/M, an operating system which was knocked out by Gary Kildall fairly hastily because (here is the truth about most OSs)—he was in a hurry to run an epplication.

Kildall never dreamed that CP/M would become the basis for a multi-million dollar industry. It just happened to be a piece of software which worked (though fairly rudimentary) and was there in the right place at the right time, just when the first generation of microcomputers were reaching the market. CP/M spread through the tight community of Silicon Valley like wildfire.

Pattern

The first eight-bit micros, the Apple and the Commodore Pet, had their own operating systems, and followed the familiar pattern of needing applications especially written for them. But the other eight-bit micros which flooded on to the market in their wake adopted CP/M, partly because it was cheap.

It did not take long for the people writing applications software to realise that if they wrote an application which worked with CP/M, they could address a very wide market, across many different machines.

On tha other aide of the Atlantic, in one of Britain's largest software houses, CAP, another micro operating system had been developed with the same idea of being portable. The BOS system, now sold by CAP spin-off MPSL, did not catch on as fast as CP/M, partly because it needed a lot of effort to implement, and once implemented, locked in its users to CAP applications very much as mainframe OSs did.

It was also expensive, compared to CP/M, and it did not have the advantage of being on the spot in Silicon Valley.

Once CP/M was established as the "standard" operating system for Z80-based micros, it grew an industry of its own.

The more applications that appeared, the better it was for users and buyers, who were assured of having a choice, and never again getting "locked in" to one supplier which could charge what it liked.

CP/M was the beginning of competitive software pricing, and a high-volume, low-cost attitude to software packages. The operating environment becama the driving force in the market.

By the time IBM entered the micro market last year, CP/M rule OK, and looked invincible in the eight bit arena.

But the IBM Personal Computer like most of the new arrivals which came in its wake, used the new generation of 16-bit processors. These were larger, faster and generally more powerful, and feeling ran high that a new portable operating system was needed for the 16-bit processors.

IBM, whila ready to toe the line by picking an "independent" operating system, did not do the predictable thing by picking the 16-bit versions of CP/M. It went, instead, for the MS-DOS operating system, from Microsoft.

Microsoft was best-known for its language compilers, particularly the Basic language, but had entered the operating systems area with the acquisition of MS-DOS, sold to IBM for the PC under the name PC-DOS, and a version of the up-and-coming Unix operating system, Xenix.

Digital Research reacted to its new rival by promptly acquiring some languages.

MS-DOS was, indeed, written for the 16-bit 8088 and 8086 chips used by IBM in the PC, but it was still a single user system. Micro pundits predicted the victory of MS-DOS and the imminent death of CP/M.

Digital Research responded by beefing-up CP/M—without losing access to that precious pool of applications—and providing 16-bit and multi-user versions of the system.

Variations

CP/M never really got sick, let along close to death. What happened was that applications were quickly adapted for MS-DOS and the two systems feed the market side by side.

Legend has it that Gary Kildall lost the IBM business because he was out when IBM came to call. He maintains that IBM's embrace may well have been a deadly one, which would stifle CP/M's growth and development.

Digital Research has certainly come out with ever more interesting variants on the single theme: Concurrent CP/M, which runs several jobs for one user, and most recently the user-friendly VIP system which makes use of "windows" which split up the screen.

The boring truth is that the 16 bits do not make that much difference to the applications themselves, which perhaps explains why MS-DOS and CP/M have co-existed. The extra capacity allowed by the 16 bits makes little difference especially for common-or-garden applications dealing with accounts or administration. They do make it possible to handle large numbers and "number-crunching" applications such as financial modelling and equation solving.

The real importance of the 16-bit processor is that it opened up the possibility for small microcomputers to be truly multi-user and as "adult" as minicomputers.

Most of the extra power in the 16-bit processors is invisible to the user: it all goes into making the systems software more sophisticated, and the operating system more helpful to the applications (and even sometimes to the user).

The applications, in their turn, have to be written for more than one user: this means incorporating sophisticated "locks" which prevented users from reaching the same piece of data at the same time and corrupting it. These are written in at file and record level.

Challenge

The market opened up by the new 68000 and other similar processors was yet another challenge to manufacturers. The problem was to find a portable operating system which would make applications as widely transportable in the 16-bit multi-user area as CP/M has made them portable in the eight-bit market.

First, one or two, then a flood of manufacturers plumped for the Unix operating system from AT&T's research arm Bell Laboratories.

Like CP/M, Unix had not been developed with commercial success in mind, and for years had been licenced only to universities and colleges, due to complex U.S. monopoly laws.

Now these have been lifted, and the last bar to Unix' commercial success removed. There are now plenty of "Unixalikes" like Microsoft's Xenix on the market, and most manufacturers, including Digital Equipment and IBM, have (sometimes grudgingly) given in to the Unix movement.

The system's rich variaty of programming tools makes addicts of its programmers, but Unix was chosen primarily because of its outstanding advantage of portability. The system was conceived over 10 years ago as a research tool, ironically, and not a commercial system.

It is primarily a programmers system, and is written in a very versatile language called C, which gives the system its adaptability. It is very easy to implement Unix on new processors, and it can be moved to new machine environments as more advanced processors are released.

At present, most 68000-based machines support Unix, but, as the chairman of the European Unix User Group, Mr Emrys Jones recently pointed out: "There's no such thing as loyalty to e particular processor. If something better than the 68000 comes along, then the Unix community will adopt it."

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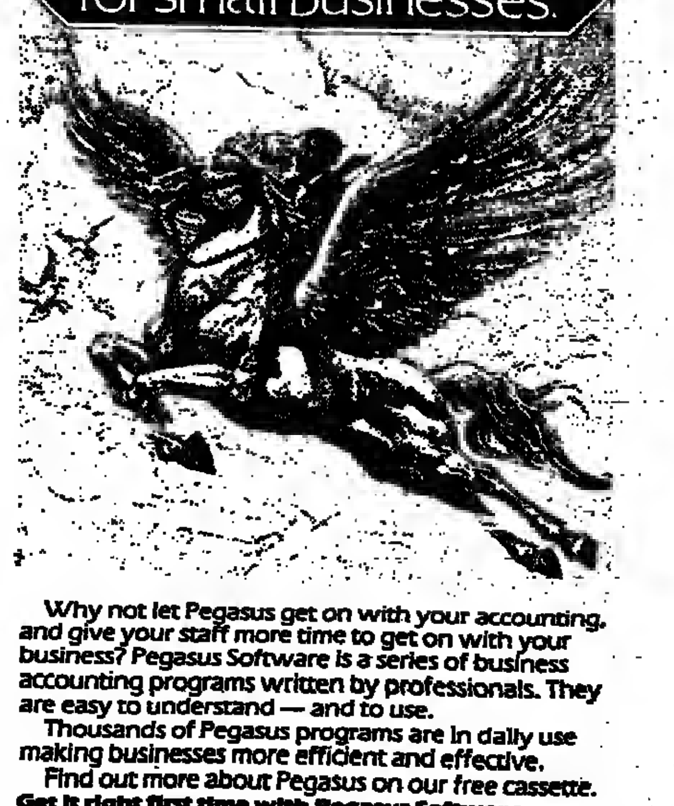

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